

MONTHLY WEATHER REVIEW.

ANNUAL SUMMARY FOR 1893.

VOL. XXI.

WASHINGTON, D. C.

No. 13.

INTRODUCTION.

This annual summary for 1893 is based upon data received from co-operating weather services, and from 1,573 stations occupied by regular and voluntary observers of the Weather Bureau. The statistical data have been prepared by the

Division of Records and Meteorological Data, A. J. Henry, Acting Chief; the text and editorial work by Prof. Cleveland Abbe.

The title page and contents of the REVIEW for 1893 are also published herewith.

GENERAL CLIMATIC CONDITIONS.

CHARTS.

Chart I.—The normal annual pressure as given by the mercurial barometer, reduced to sea level by Prof. H. A. Hazen's tables, but not to standard gravity. The latter reduction, so far as it refers to the variation of gravity with latitude only, can easily be made by using the numerical values given for each degree of latitude on the right-hand side of the chart. The normal pressures are generally for a 20-year period; the resultant wind directions for a 15-year period.

Chart II.—The annual mean pressure for 1893 as given by the mercurial barometer, reduced to sea level but not to standard gravity. The resultant wind directions, as given in Table IV, are shown here by arrows.

Chart III.—The annual mean temperature of the air near the surface of the ground is shown by full lines, and the departures from the normal by broken lines; the lines thus drawn are intended to show the surface or climatological conditions under which animal and vegetable life exist, but for other studies it is more convenient to have isotherms drawn for an ideal sea-level temperature just as for the pressure of the air; the necessary reduction to sea level requires the assumption of a rate of diminution of temperature with altitude for the free atmosphere above the surface of the earth, such a rate may be determined from observations, and is implied in the reduction of the barometer to sea level, but can not be applied to the hypothetical atmosphere below the surface of the earth, except with the understanding that it is purely a conventional arrangement adopted for the purposes of chartography; for this purpose the rate of one-half of a degree centigrade per 100 meters, or its equivalent, 0.274° F. per 100 feet, has been adopted in accordance with the general practice of climatologists; the isotherms thus prepared, and shown by dotted lines, can, therefore, be directly compared with those published by others, especially Hann.

Chart IV.—The maximum temperature of the year, as reported at regular stations of the Weather Bureau and without further reductions.

Chart V.—The minimum temperature of the year as reported.

Chart VI.—The absolute ranges of temperature.

Chart VII.—The total annual precipitation.

The following corrections to the statistical data in the quarto volume for 1891-'92 have been attended to in preparing the charts of normal values:

Page 14, for Southport, "latitude 38.35," read "33.55."

Page 440, for the "normal pressures at Parkersburg, W. Va., and Portland, Oreg.,¹" substitute the following:

PARKERSBURG, W. VA.

Jan.	Feb.	Mar.	Apr.	May.	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual.
29.44 30.15	29.42 30.13	29.36 30.07	29.39 30.08	29.33 30.01	29.34 30.01	29.38 30.05	29.39 30.06	29.44 30.12	29.39 30.09	29.45 30.16	29.48 30.19	29.40 30.09

PORTLAND OREG.

29.91 30.09	29.90 30.08	29.86 30.04	29.87 30.05	29.86 30.03	29.86 30.03	29.87 30.04	29.85 30.02	29.85 30.02	29.89 30.07	29.92 30.10	29.89 30.07	29.88 30.05

THE NORMAL ANNUAL BAROMETRIC PRESSURE.

The normal annual barometric pressure by mercurial barometer, not reduced to standard gravity, is about 30.02 at the southern boundary of the United States, viz., San Diego, Cal., and Corpus Christi, Tex., and increases to 30.09 as we go northward to Oregon, or 30.07 in Missouri, after which it diminishes as we go further northward to 30.03 at the northern limit of Washington and Minnesota. This diminution continues into Alaska and the Canadian Dominion; it also diminishes as we go eastward from Minnesota to New Brunswick and Nova Scotia, where it averages about 29.95. But as we go eastward from Texas the annual mean pressure rises until it becomes about 30.11 on the south Atlantic coast, which is the region of the maximum annual pressure for any portion of the United States. The regions of low pressure in the Northern Hemisphere are central in the North Pacific along the Aleutian Archipelago and in the North Atlantic between Iceland and southern Greenland; the region of highest pressure extends from the south Atlantic States eastward along the thirtieth parallel to the coast of Africa. A depression extends from Yuma, Ariz., southeast over the Gulf of California and the adjacent coast of Mexico, which is to be considered as a northward extension of what is called the tropical belt of low pressure. In the summer months this extends northward to the British possessions, while the whole belt moves northward; in the winter time the entire belt moves southward, and Mexico, like the United States, has a higher average pressure.

During 1893 the distribution of pressure has been such as to be below the normal by from .02 to .05 in the southwest, the interior valleys, and the upper Lake region, but above the normal by .02 or .03 in the extreme northeast and at several Pacific coast stations.

MEAN TEMPERATURE.

The mean annual temperature, not reduced to sea level, was highest in Florida, Arizona, and southern Texas, the maximum being 76.9° at Key West, Fla. The isotherm 60° F. passed from Hatteras, N. C., westward through central Arkansas, Oklahoma, to southern California. The isotherm of 40° passed from central Maine westward over Lake Huron, central Wisconsin, northern Montana, and thence northwestward through Alberta. The lowest annual averages within the United States were St. Vincent, Minn., 29.9° ; Moorhead, Minn., 35° ; Duluth, Minn., and Sault Ste. Marie, Mich., 37.4° ; Bismarck, N. Dak., 38.1° ; Havre, Mont., and Marquette, Mich., 39.2° .

DEPARTURES FROM NORMAL TEMPERATURE.

The mean annual temperature was above the normal in the south Atlantic and Gulf States and the eastern Rocky Mountain slope, the maximum excess being 2.2° at Abilene, Tex. Elsewhere temperature was usually below the normal, the maximum deficit being 4.0° at St. Vincent, Minn.; 2.9° at Portland, Me.; 2.4° at Chicago, Ill.; 2.0° at La Crosse, Wis., and Dubuque, Iowa; 2.2° at Oswego, N. Y.

MAXIMUM TEMPERATURES.

The maximum temperatures of the year exceeding 105° F. were as follows: Yuma, Ariz., 111° , June 7 and August 2; Tucson, Ariz., 107° , June 7 and July 1; Red Bluff, Cal., 106° , August 4; Miles City, Mont., 107° , July 25; Dodge City, Kans., 106° , June 23. The lowest maxima, viz, those below 90° , were San Diego, Cal., 88° , May 22 and October 2; Fort Canby, Wash., 82° , August 26; Port Angeles, Wash., 81° , August 31; Tatoosh Island, Wash., 75° , June 4; Eureka, Cal., 69° , June 4; Hatteras, N. C., 88° , July 23; Block Island, R. I., 86° , June 20; Nantucket, Mass., 87° , June 20.

MINIMUM TEMPERATURES.

The lowest temperatures of the year were as follows: The minima below -40° were Havre and Miles City, Mont., -45° , February 1; Helena, Mont., -42° , January 31; St. Vincent, Minn., -42° , February 1; Bismarck, N. Dak., -41° , January 1. The minima that were above 30° F. were Los Angeles, Cal., 31° , March 9; Yuma, Ariz., 32° , February 16 and November 19; Corpus Christi, Tex., 33° , February 8; Jupiter, Fla., 35° , January 14; San Francisco, Cal., 36° , January 24; San Diego, Cal., 38° , January 11 and December 29; Galveston, Tex., 37° , January 16 and December 4; Key West, Fla., 52° , January 14.

RANGES OF TEMPERATURE.

The smallest annual ranges of temperature have been: Key West, Fla., 39° ; Eureka, Cal., 40° ; San Diego, Cal., 50° ; San Francisco, Cal., 54° ; Galveston, Tex., 55° . The largest annual ranges have been: Havre, Mont., 148° ; Miles City, Mont., 152° ; Helena, Mont., 144° ; Bismarck, N. Dak., 144° ; Moorhead, Minn., 140° ; St. Vincent, Minn., 138° ; Huron, S. Dak., 135° ; Pierre and Rapid City, S. Dak., 129° .

PRECIPITATION.

The greatest annual precipitations were 104 inches at Tatoosh Island, Wash., and 118 at Neah Bay, Wash. The precipitation exceeded 80 inches on the coast of Washington and 40 on the coast of California. It was from 2 to 10 in Nevada, from 10 to 40 in Idaho, and from 5 to 20 in Arizona; on the eastern slope of the Rocky Mountains from 5 to 15, increasing as we go eastward until, in the Mississippi Valley, it ranged from 25 at the northern end to 45 or 50 at the southern. Along the Atlantic coast the maximum precipitation was 71 at Charleston, S. C., but this was apparently an exception, as the reports generally are 60 or less; the precipitation diminished along the coast northeastward to East-

port, Me., which had about 30 inches and southward to Key West, Fla., which had 22.

PRECIPITATION DEPARTURES FROM NORMAL.

The annual precipitation was generally deficient, and largely so in Louisiana, Kansas, the interior of Georgia, and southern Florida. The largest deficit was 31.04 , or 51 per cent, at Kittyhawk, N. C., and 10.82 , or 52 per cent of the normal, at Dodge City, Kans. The largest excess was 29.29 , or nearly 50 per cent, at Astoria, Oreg. The details of the departures will be found in the accompanying table.

WIND MOVEMENT.

In the MONTHLY WEATHER REVIEW for December, 1893, is given a table of resultant winds from observations at 8 a. m. and 8 p. m., daily, with a full explanation of the method adopted in its preparation. The accompanying table (IV) of this summary gives the similar resultant winds and their component directions, from two observations, daily, throughout the year. The second column of Table I gives the prevailing wind direction for each station, which, of course, may differ greatly from the resultant winds.

Two stations are omitted from the table for which the record is incomplete, viz, Valentine, Nebr., and Seattle, Wash. Those stations like Columbia, Mo., that take only one observation a day are also omitted, but the numerals attached to each station are the same as in the December REVIEW.

ACCUMULATED TEMPERATURES AND RAINFALL.

The relation between the climate of any region, the growth of vegetation, and the quality of the crops is commonly understood to depend, primarily, upon the actual temperature, sunshine, and moisture. The accumulated sums of these quantities day by day after the seed is sown hold a close relation to the resulting harvest. On the other hand the seeds that have been raised for many years in succession in the same region have, by a process of acclimatization, attained the property of yielding what may be called a normal crop under normal climatic conditions; hence, the departures of the weather for any year from the normal climate may be assumed to produce corresponding departures of the crop for that year from the normal crop. From this point of view it has become the custom to publish in the successive WEATHER REVIEWS the departures of temperature and rainfall for the respective months as well as the accumulated departures. In order to present a condensed summary of the climatic conditions during the year 1893, the accompanying tables, V and VI, have been prepared, showing all of these accumulated departures. Table V has been constructed in the following manner: For each district the departure from the normal for the month of January is shown in the first column, and is expressed in degrees F. and inches of rainfall, respectively; the departures for the month of February, after being added to those of January, give the accumulated departures for that month, as shown in the second column, and so on until the end of the year, so that the departures given in the column for December represent the sum total of the twelve monthly departures. If we wish to find the mean departure from the beginning up to any month in the year, we divide the accumulated departure for that month by the calendar number of the month. Thus, the average departure in temperature for the whole year for New England is -16.1° divided by 12, or -1.34° , which also represents the departure of the mean annual temperature for New England for 1893 from the adopted normal.

In general, it will be seen that the year has been cold, and, except in the middle and south Atlantic States, has steadily progressed from January to December toward greater deficits of temperature.

Table VI, of accumulated departures of precipitation, has

been compiled in the same manner as above described, except that the last column gives the total annual departure instead of the average. It shows that there has been almost everywhere a deficit of precipitation, and, except in the north Pacific district, a steady movement from month to month toward a greater deficit.

If the individual monthly departures of rainfall are expressed as percentages of the normal monthly precipitation, we obtain the figures given in the text of the REVIEW from month to month, but the actual departures, as here given, present a clearer view of the progress of dry and wet seasons when they continue for long periods.

TABLE I.—*Weather Bureau stations.*

State and station.	Mean reduced barometer.	Prevailing winds.	Temperature—degrees Fahrenheit.						Precipitation.	
			Mean annual.	Departure from normal.	Extremes of 1893.				Total 1893.	Departure from normal.
					Max.	Date of max.	Min.	Date of min.		
Alabama.	In.		0	0	0	July 9	22	Jan. 20	In.	In.
Mobile	30.06	n.	67.0	+0.2	96	July 25	17	Jan. 20	63.42	+ 0.77
Montgomery	30.07	s.	65.6	+0.2	96	July 1	17	Jan. 20	47.48	- 5.42
Arizona.										
Tucson	29.94	nw.	66.1	-1.1	107	June 7	2	Dec. 30	13.12	- 0.11
Yuma	29.89	w.	72.2	-0.1	111	July 1	32	(Feb. 16)	3.00	- 0.14
Arkansas.						Aug. 25		(Nov. 19)		
Fort Smith	30.05	e.	59.9	+0.5	101	Sept. 13	6	Jan. 19	44.70	- 0.51
Little Rock	30.05	se.	61.1	-0.5	98	Sept. 15	11	Jan. 20	48.48	- 5.73
California.										
Eureka	30.08	nw.	50.6	.....	69	June 4	29	Feb. 1	43.71	- 0.65
Fresno	30.00	s.	61.0	.....	109	Aug. 1	28	Feb. 1	9.40	+ 0.40
Keeler	29.98	sw.	59.5	-3	101	July 18	23	Dec. 28	3.59	- 0.19
Los Angeles	29.99	s.	61.5	+0.1	92	Aug. 10	31	Mar. 9	21.06	+ 3.58
Pt. Reyes Light										
Red Bluff	30.02	nw.	60.6	-2.4	106	Aug. 4	27	Feb. 1	24.36	- 1.55
Sacramento	30.01	s.	58.8	-0.8	103	July 31	23	Dec. 30	16.59	- 5.27
San Diego	30.00	w.	60.6	-0.2	88	(May 22)	38	(Jan. 11)	10.29	- 0.59
San Francisco	30.05	sw.	54.3	-1.7	90	June 3	36	Jan. 24	17.91	- 6.23
Colorado.										
Denver	29.99	s.	50.9	+1.6	96	July 3	— 2	Feb. 2	8.48	- 6.19
Pueblo	29.97	nw.	52.0	.....	101	June 20	— 2	Feb. 2	6.84	- 4.83
Connecticut.										
New Haven	30.02	sw.	48.0	-1.4	96	June 20	— 3	Jan. 18	46.71	- 3.51
New London	30.03	nw.	47.7	-1.8	95	June 20	— 4	Jan. 11	41.72	- 7.37
District of Columbia.										
Washington	30.07	nw.	53.7	-1.1	97	July 26	— 6	Jan. 18	36.71	- 8.35
Florida.										
Jacksonville	30.09	ne.	69.6	+0.6	100	July 24	24	Jan. 17	58.23	+ 3.10
Jupiter	30.07	(nw.)	74.0	.....	94	July 26	35	Jan. 14	60.88	+ 2.87
Key West	30.07	e.	76.9	-0.3	91	(July 24)	52	Jan. 14	22.00	- 18.01
Penscola	30.06	sw.	67.9	+0.2	97	(Aug. 16)				
Tampa	30.09	s.	72.2	.....	95	July 25	23	Jan. 20	44.93	- 17.20
Titusville	30.09	se.	71.1	.....	96	July 20	29	Jan. 14	17.97	- 1.50
Georgia.										
Atlanta	30.10	nw.	60.7	-0.3	96	July 27	8	Jan. 16	36.43	- 18.03
Augusta	30.11	nw.	63.8	-0.2	98	July 17	12	Jan. 16	48.91	+ 0.52
Savannah	30.10	s.	66.7	+0.1	100	July 15	18	Jan. 16	61.55	- 11.19
Illinois.										
Cairo	30.06	s.	57.1	-0.7	94	July 28	0	Jan. 15	48.79	+ 5.09
Chicago	30.00	ne.	46.1	-2.4	95	(Aug. 10)	-16	Jan. 15	27.47	- 8.08
Springfield	30.03	nw.	50.9	-1.5	98	(Sept. 14)	-12	Jan. 15	34.73	- 4.36
Indiana.										
Indianapolis	30.04	nw.	52.0	-0.7	97	July 24	-15	Jan. 15	39.35	- 5.47
Iowa.										
Davenport	30.00	w.	47.3	-1.9	96	Sept. 7	-15	Jan. 13	27.33	- 7.54
Des Moines	30.01	nw.	46.7	-1.6	95	Sept. 6	-16	Feb. 4	25.64	- 9.42
Dubuque	30.00	s.	45.7	-2.0	96	July 24	-23	Jan. 17	30.77	- 6.88
Keokuk	30.01	nw.	49.9	-1.6	97	Sept. 6	-12	Feb. 4	27.94	- 8.08
Sioux City	29.99	nw.	45.6	.....	97	July 12	-21	Feb. 1	23.05	.....
Kansas.										
Concordia	30.02	s.	53.0	+1.7	103	July 14	-11	Feb. 1	21.50	- 4.27
Dodge City	29.96	s.	54.6	+1.6	102	June 23	-7	Feb. 1	10.12	- 10.82
Topeka		s.	53.9	.....	104	Sept. 13	-6	Feb. 1	32.73	- 4.40
Wichita	30.01	s.	56.1	.....	104	Sept. 13	-2	Feb. 1	18.19	- 12.95
Kentucky.										
Lexington		sw.	54.4	.....	95	July 25	-11	Jan. 15	42.55	- 4.60
Louisville	30.07	sw.	56.0	-0.8	97	July 24	-10	Jan. 15	43.93	- 3.26
Louisiana.										
New Orleans	30.07	ne.	69.4	+0.4	95	Sept. 16	29	Jan. 20	48.02	- 13.76
Shreveport	30.03	se.	65.8	+0.4	101	July 31	25	Dec. 4	32.06	- 18.74
Maine.										
Eastport	29.93	sw.	41.0	-0.2	90	Aug. 10	-11	Dec. 14	29.87	- 19.11
Portland	29.98	nw.	43.2	-2.9	93	July 21	-9	Dec. 14	43.61	+ 0.93
Maryland.										
Baltimore	30.06	nw.	53.5	-1.8	98	June 20	1	Jan. 16	32.15	- 12.63
Massachusetts.										
Boston	30.02	w.	47.9	-0.4	94	June 20	-4	Jan. 11	41.84	- 4.26
Nantucket	30.02	w.	47.4	-0.9	87	June 20	4	Jan. 11	35.76	- 6.24
Vineyard Haven	30.02	w.	50.0	.....	90	June 20	2	Jan. 11	44.44	- 3.40
Woods Hole		w.	47.5	-1.5	82	Aug. 9	-5	Jan. 17	52.10	- 7.23
Michigan.										
Alpena	29.98	sw.	41.3	+0.5	93	July 25	-14	Feb. 20	33.35	- 3.08
Detroit	30.00	s.	46.9	-1.2	93	July 25	-10	Jan. 15	34.18	- 1.58

TABLE I.—*Weather Bureau stations—Continued.*

State and station.	Mean reduced laborer.	Prevailing winds.	Temperature—degrees Fahrenheit.						Precipitation.		
			Mean annual.	Extremes of 1893.				Total 1893.	Departure from nor- mal.	Percentage of normal.	
				Max.	Date of max.	Min.	Date of min.				
<i>Michigan—Cont'd.</i>			Ins.	o	o	o					
Escanaba	29.99	sw.	38.4	-1.7	87	July 15	-21	Ins.	26.26	-5.55	83
Grand Haven	29.99	nw.	44.8	-1.5	89	Aug. 10	-2	Ins.	34.97	-1.70	98
Manistee											
Marquette	29.94	bw.	39.2	-1.4	95	June 19	-19	Feb. 2	35.86	+3.10	110
Pontiac	30.03	sw.	44.9	+0.1	92	(July 12)	-11	Jan. 11	34.80	+2.64	108
Pot Huron	30.03	sw.	44.9	+0.1	92	(July 25)	-11	Jan. 11	34.80	+2.64	108
Rouale Ste. Marie	29.95	se.	37.4	-1.4	92	June 20	-26	Jan. 10	39.64	-1.30	96
<i>Minnesota.</i>											
Duluth	29.97	bw.	37.4	-1.8	93	July 21	-28	Feb. 1	23.34	-8.73	73
Moorhead	30.00	sw.	35.0	-1.8	101	June 12	-39	Feb. 1	23.58	-0.79	97
St. Paul	30.00	se.	41.3	-1.3	98	July 24	-26	Feb. 1	25.95	-1.36	95
St. Vincent	30.00	n.	29.9	-4.0	96	(June 13)	-42	Feb. 1	20.07	+1.90	110
<i>Mississippi.</i>											
Meridian	30.08	ne.	63.4	-.....	97	July 28	14	Jan. 20	56.32	-.....	.....
Vicksburg	30.04	sw.	65.3	-0.2	96	July 27	20	Jan. 20	47.42	-9.72	83
<i>Missouri.</i>											
Columbia	30.03	nw.	53.6	-.....	104	Sept. 14	-6	Feb. 7	42.63	-.....	.....
Kansas City	30.03	se.	52.9	-.....	101	Sept. 13	-8	Feb. 7	32.13	-.....	.....
St. Louis	30.03	s.	55.3	-0.3	99	Sept. 14	-2	Jan. 15	39.33	+1.33	104
Springfield	30.05	se.	55.1	-.....	102	Sept. 14	-1	Feb. 7	40.55	-5.16	86
<i>Montana.</i>											
Havre	29.97	sw.	39.2	-1.6	103	Aug. 5	-45	Feb. 1	13.31	-1.64	90
Helena	30.02	sw.	42.2	-1.1	102	July 20	-42	Jan. 31	15.48	+2.26	116
Miles City	29.94	nw.	42.8	-.....	107	July 25	-45	Feb. 1	14.16	-.....	.....
<i>Nebraska.</i>											
Kearney	30.01	nw.	49.0	-.....	99	July 12	-18	Feb. 1	22.86	-.....	.....
North Platte	30.02	nw.	47.9	+0.3	96	(June 11)	-16	Feb. 7	13.16	-5.90	69
Omaha	30.03	nw.	48.8	-0.7	97	(Sept. 7)	-16	Feb. 7	26.66	-6.38	81
<i>Nevada.</i>											
Carson City	30.06	sw.	49.1	-.....	93	July 19	8	Nov. 18	12.10	-0.84	94
Winnemucca	30.05	sw.	46.6	-2.9	98	Aug. 14	-19	Nov. 19	7.85	-1.07	88
<i>New Jersey.</i>											
Atlantic City	30.05	sw.	50.9	-0.9	93	July 13	-4	Jan. 16	37.13	-5.68	87
New Brunswick	30.05	nw.	50.2	-.....	98	June 20	-10	Jan. 18	49.31	-.....	.....
<i>New Mexico.</i>											
Santa Fe	30.01	sw.	49.4	+1.3	89	July 4	5	Dec. 30	14.94	+1.25	102
<i>New York.</i>											
Albany	30.03	s.	47.0	-1.1	96	June 20	-6	Feb. 5	35.39	-3.40	91
Buffalo	30.00	sw.	45.8	-0.5	90	Aug. 9	-5	Jan. 10	38.64	+0.33	101
New York	30.04	sw.	51.3	-0.1	98	June 20	1	Jan. 11	53.01	+7.54	117
Oswego	30.01	se.	44.3	-2.2	92	Aug. 11	-6	Jan. 11	34.78	-0.50	99
Rochester	30.03	nw.	46.5	-0.1	97	Aug. 11	-6	Jan. 11	35.50	-0.32	101
<i>North Carolina.</i>											
Charlotte	30.07	sw.	59.4	-0.6	100	July 15	5	Jan. 16	56.33	+2.66	105
Hatteras	30.08	n.	60.8	-0.4	84	July 23	16	Jan. 11	58.30	-10.62	84
Kittyhawk	30.05	sw.	58.9	-0.6	95	June 16	9	Jan. 11	29.52	-31.04	49
Raleigh	30.08	sw.	58.7	-0.8	90	July 7	2	Jan. 17	49.52	-6.18	95
Southport	30.07	bw.	62.2	-1.1	92	Sept. 20	11	Jan. 14	54.02	+4.52	109
Wilmington	30.09	sw.	63.3	+0.2	97	July 8	13	Jan. 10	42.75	-13.49	76
<i>North Dakota.</i>											
Bismarck	29.95	sw.	38.1	-1.5	103	Aug. 7	-41	Feb. 1	13.74	-5.22	72
Williston*	29.98	w.	37.1	-2.3	105	July 20	-46	Feb. 1	15.45	+4.15	111
<i>Ohio.</i>											
Cincinnati	30.05	se.	52.7	-1.6	95	July 30	-11	Jan. 15	44.00	+2.82	107
Cleveland	30.02	se.	48.1	-0.7	94	July 15	-6	Jan. 15	33.88	-3.36	90
Columbus	30.02	nw.	51.2	-0.8	95	July 14	-12	Jan. 15	38.12	-2.16	94
Sandusky	30.02	se.	48.9	-1.0	94	July 25	-9	Jan. 15	29.00	-6.40	82
Toledo	30.02	nw.	48.3	-1.5	93	July 13	-10	Jan. 15	23.81	-8.07	75
<i>Oklahoma.</i>											
Oklahoma	30.03	se.	59.1	-.....	101	Sept. 13	-2	Jan. 19	24.28	-.....	.....
<i>Oregon.</i>											
Astoria		sw.	49.9	0.0	85	June 5	16	Jan. 31	91.68	+29.29	147
Baker City	30.01	se.	43.8	-.....	100	July 31	-17	Feb. 1	15.83	-.....	.....
Portland	30.07	sw.	50.1	-2.4	94	Aug. 31	8	Feb. 1	39.03	-10.20	79
Roseburg	30.08	nw.	50.9	-1.9	96	July 31	20	Feb. 1	37.86	+2.58	107
<i>Pennsylvania.</i>											
Erie	30.01	sw.	47.4	-1.4	90	July 15	-5	Jan. 14	39.99	-2.41	96
Harrisburg	30.07	w.	50.4	-.....	96	June 20	-4	Jan. 16	35.18	-14.64	89
Philadelphia	30.05	nw.	52.9	-0.4	98	June 20	0	Jan. 16	37.65	-3.03	93
Pittsburg	30.05	nw.	51.6	-0.6	95	July 25	-3	Jan. 16	37.84	-0.40	99
<i>Rhode Island.</i>											
Block Island	30.03	sw.	47.7	-1.4	86	June 20	2	Jan. 1	44.84	+0.48	103
Narragansett Pier	30.03	sw.	46.8	-1.4	92	June 20	-4	Jan. 11	46.22	-3.05	94
<i>South Carolina.</i>											
Charleston	30.07	sw.	66.1	+0.3	99	July 14	20	Jan. 16	70.99	+14.69	126
Columbia	30.07	w.	63.8	-.....	102	July 14	11	Jan. 16	41.67	-.....	.....
<i>Tennessee.</i>											
Chattanooga	30.10	s.	60.0	-0.2	98	July 25	5	Jan. 16	47.46	-9.36	83
Knoxville	30.08	s.	58.0	-0.5	94	July 25	-10	Jan. 16	43.42	-9.45	82
Memphis	30.08	s.	61.3	+0.2	97	July 28	13	Jan. 20	44.45	-9.53	83
Nashville	30.06	nw.	58.7	-0.6	96	July 28	3	Jan. 15	46.30	-5.71	91
<i>Texas.</i>											
Abilene	30.01	s.	65.3	+2.2	104	Sept. 12	10	Feb. 2	16.27	-8.01	67
Amarillo	30.00	s.	56.1	-.....	104	June 23	4	Feb. 2	17.22	-.....	.....
Corpus Christi	30.02	se.	70.8	-.....	95	Sept. 9	33	Feb. 2	20.50	-11.23	65
El Paso	30.00	sw.	63.8	+0.5	104	June 29	18	Jan. 13	10.88	+0.35	103
Galveston	30.06	se.	70.3	+0.4	92	Sept. 9	37	Dec. 4	35.43	-15.55	69
Palestine	30.04	s.	66.5	+1.8	100	July 31	22	Jan. 19	30.58	-15.78	65
San Antonio	30.04	se.	70.1	+1.8	103	Sept. 11	26	Jan. 19	18.24	-13.89	60

TABLE I.—Weather Bureau stations—Continued.

State and station.	Mean reduced barometer.	Prevailing winds.	Temperature—degrees Fahrenheit.					Precipitation.					
			Mean annual.	Departure from normal.	Extremes for 1893.			Total 1893.	Departure from normal.	Percentage of normal.			
					Max.	Date of max.	Min.						
Utah.	Ina.	o	50.2	-1.4	99	July 19	o	Jan. 20	17.35 + 0.98	106			
Salt Lake City	30.05	se.	50.2	-1.4	99	July 19	4	Jan. 20	17.35 + 0.98	106			
Vermont.													
Northfield	30.03	s.	39.5	.....	91	Aug. 10	-27	Dec. 14	31.36 - 5.54	85			
Virginia.													
Cape Henry	.....	se.	58.5	-0.1	99	July 26	6	Jan. 17	50.77 - 2.25	96			
Lynchburg	30.08	sw.	55.9	-1.1	97	July 25	-6	Jan. 17	54.60 + 1.65	123			
Norfolk	30.07	ne.	58.5	-0.6	95	July 16	6	Jan. 17	57.99 + 5.79	110			
West Virginia.													
Parkersburg	30.08	{w.	53.0	.....	96	July 25	-11	Jan. 11	44.22 - 0.98	98			
Washington.													
Fort Canby	30.02	n.	48.7	-1.7	82	Aug. 26	16	Jan. 31	75.40 + 16.74	120			
Neah Bay	.....	sw.	48.3	.....	77	June 4	2	Feb. 2	18.88 + 17.01	116			
Olympia	30.03	s.	48.1	-1.6	94	Aug. 31	6	Jan. 31	61.62 + 10.23	119			
Port Angeles	30.01	{s.	45.6	-0.4	81	Aug. 31	-1	Jan. 31	36.40 + 7.44	125			
Spokane	30.03	s.	45.7	-2.0	99	July 31	-19	(Jan. 31)	22.00 + 3.89	110			
Tatoosh Island	30.01	e.	47.0	-1.7	75	June 4	7	Jan. 31	104.19 + 17.44	117			
Walla Walla	30.05	s.	50.6	-2.8	103	July 31	-15	Feb. 1	23.07 + 6.49	130			
Wisconsin.													
Green Bay	30.01	s.	41.9	-0.3	96	July 13	-22	Jan. 14	32.99 - 0.01	100			
La Crosse	30.01	s.	44.2	-2.0	96	July 24	(Jan. 14)	26	24.64 - 7.40	77			
Milwaukee	30.00	nw.	43.8	-1.1	94	Aug. 10	-16	Feb. 4	32.87 + 0.38	102			
Wyoming.													
Cheyenne	29.99	nw.	45.3	+0.9	91	June 11	-4	Feb. 2	9.22 - 2.91	76			
Lander	30.01	sw.	42.2	.....	95	July 20	-19	Feb. 28	10.89	.....		

* Eight days missing from November report.

TABLE II.—Voluntary stations.

State and station.	Temperature—degrees Fahrenheit.					Precipitation.	
	Mean for 1893.	Extremes for 1893.					
		Max.	Month.	Min.	Month.		
Alabama.	o	o	o	o	o	Inches.	
Alco	66.1	97	July	20	Jan.		
Bermuda	64.5	96	July	18	Jan.		
Brewton	65.6	102	July	18	Jan.		
Citronelle	67.3	94	June	22	Jan.		
Claiborne Landing							
Cordova							
Decatur							
Eiba	65.3	98	July				
Eufaula	66.9	100	Aug				
Florence a.							
Florence b.	60.3	97	July	-6	Jan.		
Gadsden							
Geneva	68.2	102	July	22	Dec.		
Greensboro	63.5	98	July	12	Jan.		
Healing Springs	63.2	98	July	19	Jan.		
Hightland Home	64.9	96	July	16	Jan.		
Livingston b.							
Lynn a.							
Maple Grove	62.5	102	July				
Marion							
Mount Willing	65.8	99	July	18	Jan.		
Newbern	63.7	96	July	12	Jan.		
Newburg	60.9	103	July	-8	Jan.		
OXanna	61.2	5	Jan.				
Seims							
Sturdevant							
Talladega							
Tallasse							
Tuscaloosa							
Tuscumbia a.	69.8	99	July				
Tuscumbia b.							
Union Springs a.	64.8	101	July	15	Jan.		
Uniontown	65.4	98	July	15	Jan.		
Valley Head	57.6	95	July	-6	Jan.		
Warrior							
Wilsonville							
Alaska.							
Killisnoo	39.9	80	July	-10	Feb.	72.00	
Metlakahtla	42.9	80	July	o	Jan.	102.94	
Arizona.							
Antelope Valley							
Arizona Canal Company's Dam	73.1	111	June	31	Jan.	15.17	
Benson	66.9	105	June	23	Dec.	9.53	
Bisbee	60.6	99	June	24	Feb.	7.71	
Buckeye	69.5	118	July			14.79	
Calabasas	61.8	106	June	16	Dec.	10.28	
Casa Grande	72.5	111	July	26	Jan.	4.92	
Crittenden	62.5	105	June	23	Dec.	16.88	
Dragoon Summit	67.7	102	July	23	Jan.	12.85	
Dudleyville	66.4	109	July	22	Jan.	8.37	
Florence	69.1	110	June	23	Jan.	8.63	
Fort Apache	54.5	98	July	12	Mar.	15.08	
Fort Bowie	62.3	101	June	21	Feb.	12.72	
Fort Grant	62.5	104	July	23	Feb.	13.85	
Fort Huachuca	67.1	103	June	20	Dec.	20.16	
Fort Mohave	71.6	116	June	.....		8.51
Gila Bend b.	71.5	118	July	28	Dec.	7.11	

TABLE II.—Voluntary stations—Continued.

State and station.	Temperature—degrees Fahrenheit.					Precipitation.	
	Mean for 1893.	Extremes for 1893.					
		Max.	Month.	Min.	Month.		
Arizona—Continued.							
Holbrook	o	o	o	o	o	Inches.	
Maricopa	54.2	99	July	7	Jan.	7.76	
Mount Huachuca	72.5	114	Aug.	30	Dec.	6.60	
Natural Bridge	61.2	105	June	16	Feb.	16.58	
Oracle	61.8	100	June	27	Feb.	20.66	
Pantano	65.8	114	June	28	Dec.	3.35	
Payson	53.9	109	June	15	Jan.	19.30	
Peoria	69.4	109	June	25	Feb.	7.40	
Phoenix	68.8	107	June	25	Feb.	7.68	
Red Rock	74.7	110	June	25	Feb.	9.25	
Rye						17.12	
San Carlos	63.4	110	Aug.	17	Jan.	12.53	
San Simon	68.8	110	June	28	Jan.	5.65	
Signal	67.5	109	July	24	Jan.	9.48	
Texas Hill	73.9	116	June	28	Jan.	1.80	
Tucson a.	68.2	109	June	24	Dec.	13.26	
Walnut Ranch	58.3	99	June	20	Dec.	14.05	
Whipple Barracks	51.3	95	July	-2	Dec.	14.01	
Wilcox	66.0	110	July	20	Dec.	17.56	
Yuma	75.4	110	July	32	Jan.	3.37	
Arkansas.							
Arkadelphia							
Arkansas City							
Ashdown	62.7	102	Sept.			46.02	
Bee Branch	61.1	101	Sept.			46.10	
Brinkley						46.66	
Camden a.	59.4	97	Aug.	13	Jan.	58.52	
Camden b.	62.2	95	Sept.	14	Jan.	54.09	
Conway	50.4	95	Sept.	1	Jan.	52.11	
Dallas	60.4	96	July			47.58	
Dardanelle							
Fayetteville							
Forrest City							
Helena.							
Helena b.	62.0	101	July			59.89	
Hot Springs	61.9	103	July	3	Jan.	55.86	
Keeses Ferry	57.4	102	Sept.	1	Jan.	45.08	
Kirby	61.0	99	Sept.	6	Jan.	45.81	
Lonoke	53.4	98	June	-2	Jan.	61.04	
Mount Nebo	57.1	94	Sept.	8	Jan.	47.22	
New Gascony	62.1	97	Sept.	8	Jan.	46.33	
Newport b.	59.8	95	July	3	Jan.	49.21	
Osceola	51.7	102	July	7	Jan.	52.59	
Ozark							
Pine Bluff	65.3	100	July			44.24	
Prescott	63.0	96	July	15	Jan.	40.87	
Russellville	60.8	101	Sept.	6	Jan.	49.09	
Stuttgart	62.4	99	July	0	Jan.	51.65	
Texarkana	65.4	100	Sept.	20	Jan.	28.40	
Washington	62.7	99	Sept.	13	Jan.	46.43	
Winslow	55.6	85	July	3	Jan.	51.82	
California.							
Anaheim	63.4	94	Aug.	36	Dec.	14.02	
Anderson	57.4	100	Aug.	20	Nov.	33.32	
Antioch	60.5	104	Aug.	30	Jan.	12.77	
Aptos	55.4	82	July	30	Jan.	23.51	
Arcata	61.8	80	June	26	Feb.	58.61	
Arlington Heights	62.7	100	June	32	Nov.	12.19	
Athione	63.0	107	July	30	Jan.	9.85	
Auburn	61.9	103	July	29	Feb.	34.77	
Bakersfield a.	61.8	108	July	22	Jan.	5.23	
Bakersfield b.	62.0	108	July	22	Jan.	4.03	
Ballast Point Lighthouse							
Barstow	61.7	107	July	27	Jan.	10.65	
Beaumont	63.4	102	Aug.	30	Mar.	5.23	
Belmont	60.4	90	June	33	Jan.	5.23	
Berendo							
Berkeley	66.1	112	July	30	Feb.	7.65	
Brighton	56.2	91	June	32	Feb.	23.99	
Campo Seco	53.1	102	Aug.	28	Nov.	14.91	
Centerville	58.8	102	June			21.88	
Chino	62.9	98	Aug.	31	Jan.	20.19	
Claremont	59.3	99	Aug.	30	Mar.	20.74	
Cloverdale	62.2	106	July	28	Feb.	42.76	
Colegrove							
Colusa	59.1	1					

TABLE II.—*Voluntary stations*—Continued.

State and station.	Temperature—degrees Fahrenheit.				Precipitation.
	Mean for 1893.	Extremes for 1893.			
		Max.	Month.	Min.	Month.
<i>California—Continued.</i>					
Middletown.	57.2	104	Aug.	o	Inches.
Milton (near).	60.5	104*	July	32	36.32
Napa b.	57.1	92	July	31	20.58
National City.	61.2	95	Aug.	33	18.56
Oakdale.	57.5	108	Aug.	24	12.55
Oleta.	54.5	99	Aug.	27	1.3-53
Palermo.	59.0	109	July	25	34.53
Pasadena.	58.8	98	July	30	18.08
Petaluma.	57.0	98	July	31	26.97
Placerville b.	53.2	98*	July	22	22.57
Pleasanton b.	55.4	101	June	23	46.13
Point Año Nuevo Lighthouse.					13.99
Point Bonita Lighthouse.					21.95
Point Conception Lighthouse.					27.10
Point Lobos Lighthouse.					13.05
Redding b.	52.6	75	June	33	15.87
Rio Vista.	59.7	104	Aug.	27	41.53
Riverside a.	61.4	104	June	30	15.26
Sacramento a.	53.7	94	Aug.	24*	15.06
San Ardo b.	58.4	111	July	26	18.99
San Bernardino.	61.3	100*	July	30*	11.91
San Jacinto.	60.7	103	July	25	20.29
San Luis Obispo.					16.16
San Jose b.	54.4	92	June	22	24.35
Santa Barbara a.	59.2	88	Oet.	38	14.85
Santa Barbara Lighthouse.					18.14
Santa Clara a.	55.0	92	June	29	15.03
Santa Cruz b.	56.6	87	June	33	30.41
Santa Maria.	56.4	88*	Aug.	31*	16.09
Saticoy.					18.73
Stockton a.	58.5	100*	July	30	12.30
Susanville.	48.5	94	July	3	17.40
Sutter Creek.	52.7	100	Aug.	24*	28.05
Tehachapi b.	52.2	97	July	10	12.48
Tulare c.	63.6	114	July	24	6.31
Turlock b.	55.0	105	Aug.	19	8.92
Ukish.	54.2	99*	July	24*	40.55
Upper Mattole.	55.2	96*	June	29*	78.62
Vacaville a.	60.5	108	Aug.	30	20.24
Ventura.	59.8	91	May	28	18.95
Walnut Creek (near).	57.7	104*	July	30	18.81
Wheatland.	59.4	109	July	26	17.50
Willows a.	58.9	100	Aug.	26	16.73
Yreka.	49.2	98	July	10	20.81
Yuba City.	63.5	104*	July	35*	17.28
<i>Colorado.</i>					
Abbott.					5.51
Alma.	32.8	78	June	—15	Mar.
Amherst.					12.01
Arboles.					12.85
Avoca.					6.87
Breckenridge.	32.2	84	July	—20	Feb.
Brush.	49.3	104*	June	1	9.56
Byers.	53.2	100*	June	1	8.66
Castle Rock.	47.5	94	July	—3	14.53
Cheyenne Wells.	48.5	102	Aug.	—4	Feb.
Collbran.					10.93
Como (near).	35.2	78	July	—7	Feb.
Cope.	61.0				17.03
Deer Trail.	52.6	95	July	—11	Mar.
Delta.	49.2	103	July	0	Feb.
Downing.	62.2	98*	July	—10	Jan.
Dumont.	43.0	88	June	—5	Feb.
East Dale.					14.04
First View.	52.6	102	June	—4	Feb.
Fort Collins.	47.5	95*	June	—4	Feb.
Garnett.					7.64
Glen Eyrie.	47.8	97*	June	0	Feb.
Gold Hill.	45.1	89	June	—4	Mar.
Grand Junction.	52.7	98	July	—2	Jan.
Greeley.	49.6	98	July	—11	Dec.
Hugo.	48.8	98	June	—11	Feb.
Hugo (near).	47.1	95*	June	—5	Feb.
Husted.	48.1	97	June	—3	Dec.
Julesburg.	49.7	101	June	—13	Feb.
Kirk.					10.56
Kit Carson.	52.7	102*	June	—8	Feb.
La Jara.	45.7	90	June	—5	Feb.
Lamar.	51.8	106	June	—5	Feb.
La Porte.					7.15
Las Animas.	52.3	102	June	—7	Feb.
Lavender.	44.0	94	July	—11	Nov.
Lay.	42.0	94	July	—21	Nov.
Le Roy.	48.6	101	July	—13	Feb.
Leslie.					11.10
Loveland.					10.59
Middle Box Elder.					6.71
Minneapolis.	53.4	105*	June	—12	Mar.
Monte Vista Experiment Station b.	41.8	87	July	—17	Feb.
Moraime.	40.7	83	July	—11	Feb.
Pagoda (near).	41.3	96	July	—21	Feb.
Paonia.					22.70
Parachute.	46.1	97	July		4.86
Red Cliff.					11.36
Rico.					6.63
River Bend.					14.19
Rocky Ford.	52.8	102	June	—1	Feb.
Saint Cloud.					15.95
San Luis.	43.6	91	July	—7	Jan.
Scissors.					10.97
Seibert.					11.95

TABLE II.—*Voluntary stations*—Continued.

State and station.	Temperature—degrees Fahrenheit.				Precipitation.
	Mean for 1893.	Extremes for 1893.			
		Max.	Month.	Min.	Month.
<i>Colorado—Continued.</i>					
Smoky Hill Mine.	o	89	June	—6	Feb.
Stamford.	36.32	20.58	July	—14	Feb.
Steamboat Springs.	37.0	91	June	—10	Feb.
Sunnyside.	42.2	82*	June	—17	Jan.
Surface Creek.	37.4	95	June	1	Jan.
Thor.	48.4	102	June	0	Dec.
Twin Lakes.					15.24
Wallet.					12.90
Ward District.					16.38
Watkins.	54.7	100	June	2	Feb.
Wilde.					9.27
Yuma.					13.17
Zuck.					10.26
<i>Delaware.</i>					
Dover.	53.0	96	June	—5	Jan.
Kirkwood.	50.8	104*	June		
Millford.					42.67
Millsboro.	53.1	97	June	—17	Jan.
Seaford.	53.5	97	June	—5	Jan.
<i>District of Columbia.</i>					
Distributing Reservoir.	53.7	94	July	—5	Jan.
Receiving Reservoir.	53.7	94	July	—6	Jan.
<i>Florida.</i>					
Amelia.	68.0	96	July	22	Jan.
Avon Park.	68.7	95	July	35	Jan.
Bristol.	70.4	101	July	21	Jan.
Brooksville.	68.7	94	July	27	Jan.
Clermont.	72.9	100	July	30	Jan.
De Land.					53.88
Eustis.	71.9	98	July	26	Jan.
Federal Point.	68.9	95	July	24	Jan.
Fort Meade.	70.8	93	July	22	Jan.
Gainesville.					57.40
Grasshopper.	71.3	95	July	27	Jan.
Green Cove Springs.	70.4	96	July	24	Jan.
Homeland.	71.2	97	July	25	Jan.
Hypoluxo.					56.13
Kissimmee.	73.7	98	July	25	Jan.
Lake City.	70.8	96*	July	25	Jan.
Manatee.	70.4	99	July	28	Jan.
Merritts Island.	73.5	94	July	34	Jan.
Moseley Hall.	69.1	96	June	22	Jan.
Mullet Key.	73.7	102	Aug.	34	Jan.
Myers.					46.46
New Smyrna.	73.4	92*	July	35	Jan.
Ocala.	69.6	95	July	24	Jan.
Orlando.	69.2	95	July	21	Jan.
Oxford.					45.93
Plant City.	69.7	94	July	24	Dec.
St. Andrews Bay.	71.9	97*	June	24	Jan.
St. Francis Barracks.	68.4	94*	June	26	Jan.
St. Petersburg.	73.3	96*	June	32	Jan.
Tallahassee.	66.7	93	July	23	Jan.
Tarpon Springs.	71.8	94	July	28	Jan.
<i>Georgia.</i>					
Adairsville.	60.6	101	July	—1	Jan.
Alapaha.	66.2	100	July	16	Jan.
Albany.	66.8	101	July	20	Jan.
Americus.	66.4	100	May	13	Jan.
Athens a.	61.4	96	July	10	Jan.
Athens b.					44.58
Bainbridge.					100
Blailey.	66.2	99	July	18	Jan.
Brag.					48.02
Camak.	69.1	101	July	12	Jan.
Camilla.					61.06
Canton.	64.40	97	July	—9	Jan.
Columbus.	65.8	97	July	19	Jan.
Cordele.	65.3	108	July	12	Jan.
Covington.	63.2	98	July	5	Jan.
Dahlonega.					66.58
Darien.	70.1	101	July	18	Jan.
Diamond.					66.58
Dublin.	69.4	101	July	—6	Jan.
Eastman.					42.15
Elberton.	61.6	98	July	6	Jan.
Fleming.					46.75
Forsyth.	66.1	100	July	13	Jan.
Fort Gaines.	66.1	98	July	18	Jan.
Gainesville.	68.8	98	Aug.	4	Jan.
Gillsville.	60.7	98	July	9	Jan.
Griffin.					44.33
Hawkinsville.	60.7	94	July	20	Dec.
Hephzibah.	64.7	92*	June	14	Jan.
Homerelle.	67.2	96*	June	20	Jan.
Lafayette.	62.4	98	July	12	Jan.
Lagrange.	62.4	95	July	12	Jan.
Louisville.	61.36	90	July	0	Jan.
Lumpkin.	65.1	98	July	17	Jan.
Macon a.					55.07
Macon b.	64.5	96	July		
Marietta.	58.7	96	July	6	Jan.
Marshallville.	8.99	95	July	14	Jan.
McArthur.	25.74	98*	July	—3	Jan.
Milledgeville.	19.66	94	July	12	Jan.
Millen.	19.47	101	July	10	Jan.
Monticello.	15.95	104	July		44.61
Morgan.					38.28
Newnan.	69.6	99	July	15	Jan.
Piscata.	11.95	99	July	22	Jan.
Point Peter.	66.7	103	July	10	Jan.

TABLE II.—Voluntary stations—Continued.

State and station.	Temperature—degrees Fahrenheit.					Precipitation. Inches.	
	Mean for 1893.	Extremes for 1893.					
		Max.	Month.	Min.	Month.		
Georgia—Continued.							
Poulan.	64.9	101	July	14	Jan.	51.89	
Quitman.	64.9	100	July	16	Jan.	42.47	
Resaca.	58.8	97	July	2	Jan.	47.49	
Rome.	58.8	97	July	19	Jan.	.....
Talbotton.	58.8	97	July	6	Jan.	45.86	
Thomasville.	58.8	95	July	12	Jan.	32.54	
Toccoa.	59.6	95	July	12	Jan.	43.03	
Union Point.	59.6	97	July	12	Jan.	39.79	
Washington.	59.6	96	July	12	Jan.	38.63	
Way Cross.	59.6	96	July	12	Jan.	38.63	
Waynesboro.	60.2	102	July	19	Jan.	.....
West Point.	59.7	97	July	12	Jan.	.....
Idaho.							
American Falls.	106	Aug.	—26	Feb.	12.71	.....
Boise Barracks.	48.4	106	Aug.	0	Jan.	13.89	
Bonanza City.	48.4	93	July	—32	Jan.	.....
Delta.	48.4	98	July	.....	.....	.....
Fort Sherman.	44.3	98	July	—23	Feb.	37.95	
Garden Valley.	44.3	99	July	—12	Feb.	25.35	
Kootenai.	42.4	95	Aug.	—21	Jan.	38.63	
Lake.	42.6	92	Aug.	—27	Feb.	15.40	
Martin.	38.4	93	Aug.	—21	Feb.	11.52	
Paris.	38.4	94	July	.....	.....	.....
Illinois.							
Bloomington.	49.7	98	July	—14	Jan.	30.29	
Bushnell.	49.7	99	Sept.	—8	Jan.	31.48	
Carlinville.	52.5	100	Sept.	—23	Jan.	37.12	
Cordova.	45.9	100	Sept.	.....	.....	29.03
Dixon.	45.9	100	Sept.	.....	.....	30.49
East Peoria.	45.9	100	Sept.	.....	.....	36.70
Fort Sheridan.	47.4	99*	July	—18	Jan.	29.79	
Galva.	57.9	95	July	—2	Jan.	44.66	
Goicoechea.	54.0	102	Sept.	—9	Jan.	41.12	
Griggsville.	51.1	100	Sept.	—9	Jan.	34.66	
Havana.	51.9	96	July	—9	Jan.	33.01	
Henepin.	52.6	102	Sept.	—26	Jan.	.....
Jordan Grove.	54.4	97	Sept.	—5	Jan.	39.81	
Kankakee.	50.9	90	Sept.	—20	Jan.	24.02	
La Grange.	46.4	99*	Aug.	—18	Jan.	29.84	
Martinsville.	51.8	97	July	—16	Jan.	38.85	
McLeansboro.	54.8	102	July	—11	Jan.	37.17	
Mascoutan.	54.8	98	July	—8	Jan.	38.57	
Muddy Valley.	54.4	96	July	—0	Jan.	37.31	
Oiley n.	51.1	100*	July	—17	Jan.	48.15	
Oiley b.	54.8	97	July	—14	Jan.	42.75	
Oregon.	54.8	98	Aug.	—24	Jan.	30.25	
Oswego.	44.8	96*	July	—26	Jan.	29.82	
Ottawa.	47.7	100	Aug.	—26	Jan.	27.72	
Palestine.	52.9	97	July	—17	Jan.	41.98	
Peoria.	51.7	100	July	—14	Jan.	31.72	
Philo.	49.5	98*	July	—21	Jan.	35.91	
Rantoul.	49.9	102	July	—22	Jan.	30.16	
Riley.	44.0	94	Aug.	—20	Jan.	29.95	
Rockford.	45.7	92	Sept.	—19	Jan.	36.49	
Rushville.	51.4	100	Aug.	—12	Jan.	37.51	
St. John.	56.0	101	Sept.	—2	Jan.	37.82	
Sycamore.	45.2	93*	Aug.	—17	Jan.	33.05	
Walnut.	45.2	99	June	—17	Feb.	26.78	
Winnebago.	44.0	95	Ang.	—19*	Jan.	28.52	
Indiana.							
Angola.	47.9	100	July	—16	Jan.	38.85	
Ashtabula.	61.8	101	June	—17	Jan.	37.82	
Bedford.	53.2	99	July	—14	Jan.	45.45	
Butterville.	52.8	98	July	—16	Jan.	46.07	
Cambridge City.	50.0	94*	July	—19	Jan.	47.89	
Columbia City.	47.5	95	July	—17	Jan.	33.46	
Columbus.	52.4	93	July	—12	Jan.	38.84	
Connersville.	51.0	93	July	—16	Jan.	43.87	
Crawfordsville.	53.3	93	Sept.	—13	Jan.	.....
Degonia Springs.	55.3	93	July	—8	Jan.	41.31	
Delphi.	48.6	96	Aug.	—18	Jan.	34.52	
Evansville.	51.6	94	July	—15	Jan.	42.73	
Farmland.	61.5	94	July	—18	Jan.	36.63	
Franklin.	50.0	97	July	—19	Jan.	36.45	
Hammond.	47.5	95	July	—17	Jan.	32.04	
Hawpatch.	46.7	96	July	—11	Jan.	35.83	
Huntingburg.	54.4	92*	July	—4	Jan.	59.95	
Irvington.	55.4	96	July	—8	Jan.	44.32	
Jeffersonville.	50.5	104	July	—17	Jan.	35.19	
Kokomo.	54.5	96	July	—11	Jan.	41.77	
Lafayette.	50.0	99	July	—25	Jan.	35.45	
Logansport.	50.1	95	July	—18	Jan.	32.04	
Madison.	66.0	98	July	—18	Jan.	52.70	
Marengo.	55.2	96*	July	—14	Jan.	69.95	
Marion.	51.6	97	Aug.	—18	Jan.	37.20	
Mausy.	50.2	93*	July	—19	Jan.	46.98	
Michigan City.	54.9	96	July	—15	Jan.	44.46	
Mount Vernon.	54.3	98	July	—12	Jan.	53.34	
Muncie.	55.5	96	July	—11	Jan.	44.58	
New Albany.	55.5	96	July	—11	Jan.	44.58	
Point Isabel.	55.5	96	July	—18	Jan.	44.58	
Princeton.	53.8	99	July	—12	Jan.	39.79	
Rockville.	50.6	97	July	—19	Jan.	41.35	
Rusherville.	52.4	97	July	—4	Jan.	43.24	
Seymour.	52.4	97	July	—15	Jan.	48.39	
Shelbyville.	53.0	99	July	—17	Jan.	39.61	
Terre Haute.	49.1	99	July	—19	Jan.	36.16	
Union City.	46.7	97	July	.....	.....	.....
Valparaiso.	46.7	97	July	.....	.....	.....

TABLE II.—Voluntary stations—Continued.

State and station.	Temperature—degrees Fahrenheit.					Precipitation. Inches.	
	Mean for 1893.	Extremes for 1893.					
		Max.	Month.	Min.	Month.		
Indiana—Continued.							
Vevay.	54.3	96	July	—15	Jan.	45.50	
Worthington.	52.2	94	July	—16	Jan.	45.52	
Indian Territory.							
Gwendale.	60.0	103	Sept.	—5	Feb.	24.20	
Lehigh.	61.7	105	Sept.	—4	Jan.	34.81	
Purcell.	62.9	109	July	—2	Jan.	32.38	
South McAlester.	.....	.....	.....	.....	Jan.	.....
Iowa.							
Algona.	44.2	96	Aug.	—24	Feb.	19.19	
Alta.	43.0	98*	Aug.	—22	Feb.	26.40	
Amana.	45.3	98*	July	—19	Jan.	28.99	
Ames a.	43.5	97	Aug.	—24	Feb.	26.02	
Ames b.	46.9	102	July	—20	Jan.	23.48	
Ames c.	46.9	101	Aug.	—13*	Jan.	24.70	
Atlantic.	45.8	102	July	—21*	Jan.	27.70	
Audubon.	45.7	97*	July	—20	Feb.	24.80	
Belle Plaine.	44.9	97	Aug.	—20	Jan.	26.35	
Blakeville.	45.4	104	Sept.	—22	Jan.	29.48	
Blockton.	42.6	96	Aug.	—28	Feb.	19.14	
Bonaparte.	48.5	101	Aug.	—13*	Jan.	32.38	
Carroll.	45.0	94	Sept.	—23	Feb.	29.59	
Cedar Falls.	46.4	94*	July	—16	Feb.	30.67	
Cedar Rapids.	46.4	104	Sept.	—36	Jan.	32.46	
Centerville.	49.0	97	Aug.	—18	Feb.	28.42	
Charles City.	42.6	96	Aug.	—28	Feb.	33.27	
Clarinda.	47.1	97	July	—15	Feb.	30.70	
Clinton.	46.5	98*	Aug.	—20	Feb.	30.41	
College Springs.	47.3	97	July	—17	Feb.	26.58	
Corning.	46.8	95	July	—17	Feb.	27.54	
Cresco.	41.0	94	Aug.	—27	Feb.	30.58	
Decorah.	46.0	98	Sept.	—34	Jan.	29.01	
Delaware.	42.0	98	Sept.	—24	Jan.	29.01	
Denison.	44.66	100	Sept.	—25	Feb.	.....
Eagle Grove.	41.12	43.1	July	—26	Feb.	26.10	
Elkader.	42.6	97*	July	—26	Feb.	23.58	
Emmetsburg.	43.1	97	July	—29	Feb.	.....
Estherville.	42.5	95	July	—17	Feb.	.....
Fayette.	43.9	100	Sept.	—24	Jan.	29.82	
Fort Madison.	51.7	95*	July	—12	Jan.	31.38	
Fulton.	51.4	102	Sept.	—18	Feb.	23.85	
Galva.	51.4	92	June	—24	Feb.	32.42	
Glenwood.	51.4	93	July	—21	Feb.	26.66	
Grand Meadow.	43.0	98	July	—21	Feb.	.....
Greenfield.	40.8	98	July	—17	Feb.	.....
Grinnell.	44.1	95	July	—23	Feb.	.....
Grundy Center.	43.8	96	Aug.	—22	Feb.	24.90	
Hampton.	42.2	95*	July	—23	Feb.	31.10	
Hopeville.	47.4	95	July	—18	Feb.	22.80	
Hopkinton.	47.2	98	Sept.	—17	Feb.	32.15	
Independence.	41.1	97	July	—23	Feb.	21.45	
Indianola.	47.5	97	July	—17	Feb.	29.48	
Iowa City.	47.3	99	June	—20	Feb.	29.44	
Iowa Falls.	42.1	97	Aug.	—26	Feb.	25.06	
Jefferson.	46.6	97	Sept.	—22	Feb.	.....
Knoxville.	47	97	Aug.	—11	Feb.	29.08	
Keosauqua.	49.7	98	Sept.	—20	Feb.	23.10	
Larrabee.	43.6	97	Sept.	—23	Feb.	24.40	
Le Claire.	47.2	97	July	—16	Feb.	22.40	
Logan.	45.0	97	July	—21	Feb.	24.14	
Maquoketa.	47.2	97	July	—17	Feb.	.....
Marshalltown.	45.0	96	Aug.	—21	Feb.	.....
Mason City.	47.3	98*	July	—18	Jan.	31.45	
Maxon.	47.3	94	July	—18	Jan.	28.21	
Mechanicsville.	44.4	94	July	—18	Jan.	27.98	
Monticello.	46.07	95	Aug.	—22	Jan.	27.64	
Mount Pleasant.	47.3	90	July	—19	Jan.	26.30	
Mount Vernon.	46.6	96	July	—20	Jan.	21.44	
Mount Ayr.	46.6	94	Aug.	—15	Feb.	29.66	
Muscatine.	46.9	95*	Aug.	—20	Jan.	31.20	
Newton.	46.1	95*	July	—19	Feb.	29.39	
Osage.	43.8	96	July	—18	Feb.	29.44	
Ovid.	46.9	99	Aug.	—21	Jan.	23.50	
Panama.	45.						

TABLE II.—Voluntary stations—Continued.

State and station.	Temperature—degrees Fahrenheit.								Precipitation. Inches.	
	Mean for 1893.	Extremes for 1893.				Max.	Month.	Min.	Month.	
		Max.	Month.	Min.	Month.					
Kansas—Continued.										
Collyer	0	0	108	July	-10	Feb.	36.65			
Columbus	55.5	103	Sept	-2	Jan.	11.53				
Cunningham	54.2	107*	June	-4	Feb.	21.90				
Downs				-6	Feb.					
Eco				-6	Feb.					
Eldorado		105	Sept	-6	Jan.	14.88				
Elk City	56.4	105	Sept	5	Feb.	27.98				
Ellis		110	June	0	Feb.					
Emporia	54.7	98	Sept	-4	Feb.	24.69				
Englewood	55.9	113	June	-4	Feb.	12.36				
Eureka Ranch	52.8	111	June	-11	Feb.	13.14				
Fort Riley	54.9	103	Sept	-7	Feb.	29.72				
Gove City	51.7	108	June	-9	Feb.	15.38				
Grainfield	106	July	-6	Feb.	12.95					
Greensburg		106	June	-2	Feb.					
Grenola	56.4	111	Aug	-2	Feb.	18.34				
Grinnell	54.6	110	July	-8	Feb.	10.95				
Halstead		98*	July	-8	Feb.					
Havensville		100	July	-8	Feb.					
Hays City	55.8	109	June	-1	Mar.	18.13				
Hesston				-8	Feb.					
Horton	51.8	99	July	-9	Feb.	30.77				
Hutchinson	56.5	109	Sept	-4*	Jan.	16.57				
Independence	55.7	109	Sept	0*	Jan.	23.16				
Kansas City		96	July	-7	Feb.					
Kellogg		110	June	-6	Feb.					
Kiowa	55.5	111	June	-1	Feb.	14.48				
La Crosse	110	June	-5	Feb.						
Lakin		114	June	-9	Feb.					
Lawrence	52.4	99	Sept	-6	Feb.	34.71				
Lebo	54.0	104	Sept	-9	Jan.	37.61				
Leoti	52.5	107	June	-10	Feb.	10.64				
Liberal		105*	June	-4*	Jan.					
McAllaster				-11	Feb.					
McPherson	54.1	102*	July	-6	Feb.	22.43				
Macksville		112	June							
Manhattan b	52.1	109	Sept	-6	Feb.	27.05				
Manhattan c		104	July	-6	Feb.	24.27				
Mankato	51.2	100*	June	-13	Feb.	15.41				
Marion		102	July	-5	Feb.	23.68				
Marinaton				-4*	Jan.					
Medicine Lodge				-11	Feb.					
Minneapolis	53.3	106	July	-8	Feb.	20.22				
Monument	50.4	105	July	-18	Feb.	11.24				
Morland	51.9	106	June	-11	Feb.	15.02				
Morse				-9	Feb.					
Morton	56.0	109	June	-1	Feb.	11.30				
Mount Hope		103	Sept							
Ness City		101	July	-11	Jan.					
New England Ranch				-11	Jan.					
Norton		103*	June							
Oberlin						21.78				
Olathe		101	Sept							
Oswego	55.6	108	Sept	-7	Jan.	31.21				
Page				-7	Jan.					
Pauline	54.3	105	July	-9	Feb.	25.48				
Phillipsburg	52.2	106	June	-15	Feb.	16.70				
Pleasant Dale	52.2	109	June	-13	Feb.	17.03				
Quinter	55.7	108	June	-8	Feb.	12.11				
Rome	56.8	106	Sept	1	Feb.	16.04				
Salina				-5	Feb.					
Sedan	56.8	107	Sept	-2	Feb.	22.28				
Sharon Springs		108	July	-1	Feb.	12.70				
Shields				-8	Feb.					
Sterling	57.3	105	July	-5	Feb.	15.13				
Syracuse		101	May	-5	Feb.					
Topeka		102	Sept	-8	Feb.					
Tribune	55.6	105	June	-7	Feb.	10.69				
Ulysses		111*	June	-1	Feb.					
Utica	50.7	111	June	-7	Feb.	15.63				
Wa Keeney	53.4	100*	June	-11	Feb.	11.08				
Wakefield	54.9	106	June	-4	Feb.	31.46				
Wallace a				-10	Feb.					
Wallace b	58.0	106	July	-8	Feb.	9.84				
Wamego	53.0	104	Sept	-4	Feb.	31.22				
Washington		105	July	-6	Feb.	12.53				
Winona		110	July	-6	Feb.					
Yates Center		106	Sept			31.00				
Kentucky—Continued.										
Bowling Green	94	July	-3	Jan.	47.74					
Burkesville				-3	Jan.					
Caddo	96	July	-14	Jan.						
Canton	97	July	0	Jan.						
Carrollton	54.7	100	July	-14	Jan.	44.89				
Catlettsburg	56.1	97	July	-8	Jan.	35.15				
Central City				-8	Jan.					
Earlington	58.8	99	July	3	Jan.	51.89				
Eddyville				3	Jan.					
Edmonton	54.4	92	July	-5	Jan.	50.95				
Eubanks		94*	July							
Falmouth						41.45				
Franklin	57.9	98	July	-2	Jan.	56.82				
Greendale		95	July	-9	Jan.	51.70				
Greensburg	55.2	92	July	-13	Jan.	41.49				
Harrodsburg	54.5	101	July	-22	Jan.					
Hendricks				-22	Jan.					
Lagrange				-13	Jan.					
Louisa	54.4	99	July	-22	Jan.	40.66				
Matlock		96	July	-4	Jan.					
Middlesborough	54.4	93	July	-19	Jan.	42.56				
Mount Sterling	52.6	93	July	-13	Jan.	43.20				

TABLE II.—Voluntary stations—Continued.

State and station.	Temperature—degrees Fahrenheit.								Precipitation. Inches.	
	Mean for 1893.	Extremes for 1893.				Max.	Month.	Min.	Month.	
		Max.	Month.	Min.	Month.					
Kentucky—Continued.										
Munfordville	0	0	95	July	-10	Jan.	42.96			
Pellville	56.0	97	July	-4	Jan.	44.77				
Paducah	59.0	100	July	-3	Jan.	36.71				
Princeton	55.6	101	July	-14	Jan.					
Richmond										
Russellville	57.8	95	July	-2	Jan.	49.30				
Shelby City	54.6	92	July	-7	Jan.	41.28				
Shelbyville	54.2	100	July	-15	Jan.	43.78				
South Fork										
Springfield			97	Sept	-16	Jan.	40.11			
Wickliffe			96	July	2	Jan.				
Louisiana.										
Abbeville	69.1	97	June	24	Jan.	45.62				
Alexandria	64.0	98*	June	19	Jan.	51.76				
Amite	68.2	99*	June	23	Dec	67.93				
Baton Rouge	93	July	25	Jan.	56.16					
Calhoun	64.1	97*	June	18	Jan.	43.21				
Cameron	99	June	22	Dec	47.09					
Cheneyville	96	Sept	22	Dec						
Clinton	102	Sept	20	Jan.	53.97					
Coushatta	100	July	20	Jan.						
Covington	96	June	22	Jan.						
Davis	62.9	98	July	16	Jan.	48.27				
Delhi										
Donaldsonville	63.5	95	July	30	Jan.	53.54				
Emilie	67.8	95	June	26	Jan.	48.74				
Farmerville	63.8	96	Sept	19	Jan.	49.35				
Franklin	69.3	96	June	26	Jan.	55.48				
Girard										
Grand Coteau	68.1	94	June	28	Jan.	53.60				
Hammond	97	July	28	Jan.	57.77					
Hamburg										
Houma										
Jeanerette	69.3	99	June	24	Jan.	57.97				
Lafayette	69.4	100	June	24	Jan.	46.67				
Lake Charles	62.8	97	June	21	Jan.	59.20				
Lake Providence										
Lawrence	100	July	22	Dec						
Liberty Hill	97*	June	33	Jan.						
Many										
Maurepas	68.2	101	June	20	Jan.	54.76				
Melville	95	July	26	Jan.						
Minden										
Monroe	65.9	98	July	23	Jan.	43.64				
Natchitoches	62.8	98	Sept	26	Jan.					
New Iberia	69.0	96	June	27	Jan.	42.82				
Opelousas	68.3	95	July	24	Jan.	50.14				
Oxford										
Paincourtville	97	June	27	Dec	57.42					
Plain Dealing	97	July	16							

TABLE II.—Voluntary stations—Continued.

State and station.	Mean for 1893.	Temperature—degrees Fahrenheit.				Precipitation. Inches.	
		Extremes for 1893.					
		Max.	Month.	Min.	Month.		
Michigan—Continued.							
Birch Run.....	o	o	95	Aug.	-18	Jan.	
Birmingham.....	46.4	90	July	-14	Jan.	34.37	
Boon.....	49.9	94	June	-22	Feb.	41.48	
Bronson.....	46.3	95	Aug.	-15	Jan.	29.04	
Brown City.....	44.0	94	Aug	-14	Jan.	28.88	
Caldwell.....				-18	Feb.		
Calumet.....	37.0	91	June	-20	Feb.	25.00	
Charlevoix.....			95	Aug.	-15	Jan.	27.82
Cheboygan.....	39.7	93	Aug	-17	Jan.	24.97	
Clinton.....	46.5	97	July	-16	Jan.	34.97	
Crystal Falls.....	38.1	97	June	-25	Feb.		
East Tawas.....				-15	Jan.		
Evart.....			95	June	-26	Jan.	
Fairview.....	45.0	90	Aug	-13	Jan.	26.35	
Fitchburg.....	44.8	94	July	-15	Jan.	39.65	
Flint.....	44.2	98	Aug	-24	Jan.	33.42	
Gaylord.....	40.5	93	June	-22	Jan.	37.10	
Glenwood.....			80	Aug	-12	Jan.	
Grape.....	47.9	94	July	-10	Jan.	27.40	
Grayling.....			95	Aug	-22	Jan.	
Hanover.....	47.6	93	Aug	-9	Jan.	38.33	
Harbor Springs.....			94	June	-27	Jan.	35.51
Harrison.....			94	June	-18	Jan.	34.71
Harrisville.....	40.5	90	July	-21	Feb.	39.58	
Hart.....	45.2	93	June	-15	Jan.	34.44	
Hastings.....	45.4	93	June	-14	Jan.	29.74	
Hayes.....	44.1	94	June	-16	Jan.	29.08	
Highland Station.....				-17	Jan.		
Hillsdale.....				-13	Jan.		
Howell.....	44.8	94	July	-23	Jan.	34.65	
Jeddo.....	44.1	94	Aug	-15	Jan.	30.49	
Kalamazoo.....	47.2	94	Aug	-10	Jan.	34.60	
Lake City.....				-17	Feb.		
Lansing.....	45.0	94	Aug	-11	Jan.	30.43	
Lathrop.....			95	June	-23	Jan.	
Lewiston.....			96	Aug	-15	Feb.	
Lodi.....			98	June	-17	Feb.	
Lyons.....				-5	Jan.		
McMillan.....				-24	Feb.		
Madison.....	46.2	94	July	-13	Jan.	32.46	
Marshall.....			97	June	-12	Jan.	
Mayville.....			92	Aug	-14	Jan.	
Mio.....	100	June					
Mottville.....	47.0	100	Aug	-21	Jan.	34.01	
Noble.....				-5	Feb.		
North Marshall.....	43.6	92	July	-16	Jan.	32.02	
Olivet.....			90	June	-13	Jan.	
Ovid.....	44.4	94	Aug	-12	Jan.	38.27	
Paris.....			93	June	-31	Jan.	
Parkerville.....				-14	Jan.	42.65	
Rawsonville.....			95	July	-25	Feb.	
Rockland.....			98	June	-25	Jan.	
Romeo.....				-12	Jan.		
St. Ignace.....	38.8	92	Aug	-22*	Jan.	33.51	
Sand Beach.....	43.5	95	Aug	-12	Jan.	34.78	
Thornville.....			46.6	July	-12	Jan.	
Vandalia.....			46.9	91*	July	41.80	
Washington.....				98	Aug	-17	
Williamston.....				90*	July	8*	
Ypsilanti.....	42.8	93*	July	-13	Jan.	35.55	
Minnesota.							
Ada.....				39.02			
Albert Lea.....	40.8	98	June	-27	Feb.	19.31	
Alexandria a.....							
Alexandria b.....							
Bingham Lake.....	34.3	98	July				
Bird Island.....	40.9	95	July				
Blooming Prairie.....	39.0	95	July				
Cambridge.....							
Camden.....	37.4	98	July	-35	Feb.	21.54	
Clear Lake.....	40.6	98	July				
Collegeville.....	38.9	99	July	-33	Feb.	23.05	
Crookston.....	42.0	99	July	-34	Feb.	21.56	
Farmington.....	35.4	90	July				
Fergus Falls.....	40.8	101	July	-30	Feb.	27.45	
Fort Ripley.....	37.1	96	July	-39	Feb.	22.14	
Grand Meadow.....							
Granite Falls.....	39.1	97*	June	-33	Feb.	24.38	
Lake Winnibigoshish.....	43.0	102	July	-33	Feb.	17.24	
Leech Lake.....	35.3	98	July				
Long Prairie.....	36.4	99	July	-42	Feb.	24.06	
Maple Plain.....			49.4	97*	July	26.20	
Minneapolis.....			49.4	97*	July	21.55	
Minnesota City.....	42.5	100	July	-32	Jan.	20.93	
Montevideo.....	42.9	100	July	-35	Feb.	21.53	
Morris.....	40.2	100	July	-36	Feb.	20.51	
Pine River.....	36.9	97	July	-36	Feb.	26.07	
Pokegama Falls.....	33.8	98	July				
Redwood Falls.....							
Rochester.....	41.1	96	Aug				
Rolling Green.....	40.5	93	July	-29	Feb.	21.69	
St. Charles.....	40.5	94*	July	-30*	Jan.	29.72	
St. Cloud.....	40.2	94	July				
St. Olaf.....							
Sandy Lake Dam.....	37.4	96	June	-36	Feb.	21.06	
Wabasha.....	35.4	98	July				
Willmar.....	43.2	98	July				
Winona.....	38.3	98	July	-27	Feb.	30.44	
Mississippi.							
Agricultural College.....	63.5	99	July	9	Jan.	40.17	
Batesville.....	61.1	97	Ju.y	-3	Jan.	63.16	

TABLE II.—Voluntary stations—Continued.

State and station.	Mean for 1893.	Temperature—degrees Fahrenheit.				Precipitation. Inches.	
		Extremes for 1893.					
		Max.	Month.	Min.	Month.		
Mississippi—Continued.							
Briers.....	o	o	94	Sept	22	Jan.	
Canton.....	65.1	94	July	20	Jan.		
Crystal Springs.....	64.0	95	July	19	Jan.		
Enterprise.....	65.9	101*	June	15	Jan.		
Fayette.....	63.5	98	July	15	Jan.		
Kosciusko.....	60.4	94	July	20	Jan.		
Lake.....	62.7	97	July	8	Jan.		
Logtown.....	67.5	95*	June	25	Jan.		
Louisville.....	63.1	99	July	4	Jan.		
Pontotoc.....	61.9	98	July	4	Jan.		
Water Valley.....	61.2	104	July	8	Jan.		
Yazoo City.....							
Missouri.							
Appleton City.....	54.9	105	Sept	-2	Jan.		
Arthur.....							
Bethany.....	49.5	97*	July	-12	Feb.		
Big Piney.....							
Brunswick.....	52.7	96	June	-9	Jan.		
Carrollton.....	52.3	97	Sept	-7	Feb.		
Conception.....							
Concordia.....	54.2	104	Sept	-4	Feb.		
Darksburg.....							
East Lynne.....	52.1	97	Sept	-10	Feb.		
Edge Hill.....							
Eight Mile.....	51.0	100	Sept	-2	Jan.		
Eldon.....	52.4	106	Sept	-2	Jan.		
Farmerville.....							
Fox Creek.....	54.1	94	Sept	-10	Feb.		
Fulton.....							
Gallatin.....	52.8	95	June	-11	Feb.		
Glasgow.....	52.6	100	Sept	-9	Feb.		
Gordonville.....	52.7	102	Sept	-2	Jan.		
Gorin.....	49.2	107	Sept	-6	Feb.		
Harrisonville.....							
Hastain.....							
Ironton.....							
Lamar.....	55.7	101	Sept	-2*	Jan.		
Lamotte.....							
Lebanon.....	54.3	101	Sept	-3	Jan.		
Lexington.....	52.9	100	Sept	-8	Feb.		
Marshall.....	51.5	100	Sept	-8	Feb.		
McCune Station.....	51.4	103	Sept	-10	Jan.		
Mine La Motte.....	55.1	96	Sept	-4	Jan.		
New Hartford.....							
New Haven.....	54.7	98	Sept	o*	Jan.		
New Palestine.....							
Oakfield.....	53.9	99	Sept	-4	Jan.		
Oak Ridge.....	52.9	97	June	o	Jan.		
Olden.....	57.1	96	Sept	o	Jan.		
Oregon a.....	51.0	96*	July	-12	Feb.		
Oregon b.....	50.6	96	July	-8	Feb.		
St. Charles.....	54.0	102	Sept	-4	Jan.		
St. Louis.....	53.1	100	Sept	-3	Jan.		
Palmyra.....							
Phillipsburg.....	54.6	99	Sept	-5	Jan.		
Pickering.....	46.4	98	Sept	-16	Feb.		
Platte River.....	49.9	96*	July	-4*	Jan.		
Princeton.....	49.5	99	Aug	-12	Jan.		
Rolla.....							
Sedalia.....	53.6	102	Sept	-10	Feb.		
Shellina.....							
Steelville.....							
Steffenville.....							
Stellada.....	55.0	104	Sept	-9	Feb.		
Vermont.....	52.2	100	Sept	-8	Feb.		
Warrenton.....							
Wheatland.....							
Montana.							
Boulder.....	40.2	95	July	-39	Jan.		
Coteau.....	42.3	105*	July	-42	Feb.		
Fort Custer.....	45.8	110	July	-44	Feb.		
Fort Keogh.....	41.5	110	July	-42	Feb.		
Fort Missoula.....	40.6	101	Aug	-27	Feb.		
Glendive.....	42.6	117	July	-47	Feb.		
Great Falls.....	45.3	103	July	-42	Feb.		
Hogan.....							
Martinsdale.....	40.2	104	Aug	-52	Feb.		
Virginia City.....	41.4	97	July	-24	Jan.		
Nebraska.							
Agee.....	47.2	105	Sept	-18	Feb.		
Ashland.....	48.4	100	July	-14	Feb.		
Ashton.....	47.4	104	Sept	-20	Feb.		
Bassett.....	44.9	102	July	-28	Feb.		
Beaver City.....	50.6	103	June	-14	Feb.		
Beatrice.....							
Callaway.....	47.5	98	Sept	-22	Feb.		
Cornlea.....	26.21						
Creighton.....	43.9	97	July	-22	Feb.		
David City.....	41.69	96	July	-16	Feb.		
Ericson.....	47.8	102	Aug	-21	Feb.		
Fairbury.....	47.9	102	July	-15	Feb.		
Fort Robinson.....	47.4	102	June	-21	Feb.		
Fort Sidney.....	47.0	102	July	-15	Feb.		
Franklin.....	50.8	104	July	-14	Feb.		
Geneva.....							
Genoa.....	47.5	97	Aug	-22	Feb.		
Gering.....	48.3	101	June	-16*	Jan.		
Haigler.....	49.2	104	June	o*	Jan.		
Hartington.....	44.3	99	July	-25	Feb.		
Hebron.....	51.1	101	Sept	-14	Feb.		
Holdrege.....</							

TABLE II.—Voluntary stations—Continued.

State and station.	Mean for 1893.	Temperature—degrees Fahrenheit.				Precipitation. Inches.	
		Extremes for 1893.					
		Max.	Month.	Min.	Month.		
Nebraska—Continued.							
Kennedy	46.5	99	July	-19	Feb	14.45	
Lexington	51.7	98	June	-21	Feb	18.52	
Lincoln	49.6	99	July	-14	Feb	19.74	
Madrid	47.6	101	July	-16	Feb	10.91	
Marquette		103	July	-19	Feb	20.81	
Minden	48.6	101*	June	-16	Feb	26.72	
Mullen	47.5	96	July	-17	Feb	9.79	
Nesbit	46.2					21.88	
Norfolk	46.0	94	July	-20	Feb	15.46	
North Loup	48.5	96	June	-25	Feb	16.67	
O'Neill	45.6	101*	July	-22	Feb	9.40	
Ough b.						17.55	
Palmer	46.5	102	July	-24	Feb	23.64	
Plattsburgh						18.13	
Ravenna	48.1	100*	July	-20	Feb	17.52	
Red Cloud						18.94	
Santee Agency	46.9	101*	July	-21	Feb	24.83	
Seward	50.9	105	July	-14	Feb	22.05	
Stanton	44.6					13.99	
State Farm	49.1	105	July	-18	Feb	13.99	
Superior	51.0	101	May	-10	Feb	22.02	
Syracuse	50.1	102	July	-13	Feb	27.18	
Fable Rock	51.0	104	July	-14	Feb	22.60	
Wallace	48.1	100	July	-18	Feb	10.45	
Weeping Water	45.3	102	July	-20	Feb	22.10	
Whitman	44.0	95	July	-18	Feb	10.45	
Wilcox						10.45	
Nevada.							
Austin	45.1	97	July	2	Feb	10.13	
Battle Mountain	51.5	97	July	-6	Feb	3.70	
Belmont	44.4	89	July	-5	Feb	9.00	
Beowawe	48.7	100	Aug	-11	Jan	3.84	
Candelaria	51.8	97	July	12	Feb	11.51	
Crane Ranch						4.87	
Downeyville	55.3	107	July	10*	Jan	5.02	
Elko	41.8	106	July	-30	Feb	4.94	
Ely	43.5	98	July	-14	Jan	9.14	
Goleonda	43.9	110	July	-12	Feb	4.98	
Halleck	40.9	103*	July	-32	Feb	13.46	
Hawthorne	51.8	98	July	8	Mar	2.10	
Hot Springs	55.1	100*	July	7	Feb	2.35	
Lewers Ranch	48.0	93	July	10	Feb	22.66	
Mill City	49.4	104	Aug	-15	Feb	....
Monitors Ranch	44.0	94	July	-9	Jan	9.13	
Palisade	47.3	100	July	-11	Jan	10.14	
Palmetto	45.8	93	July	-7	Dec	18.53	
Reno State University	47.4	95	July	6*	Feb	4.74	
St. Clair	50.1	94	July	8	Feb	4.65	
Stofiel	37.0	99	July	-40	Feb	24.94	
South Camp	45.3	88	July	8*	Feb	11.74	
Toano	41.9	102	Aug	-5*	Jan	4.74	
Tybo	49.4	95	July	4	Dec	11.83	
Virginia City	49.6	96	July	10	Feb	14.79	
Wabuska	51.4	104	July	4	Dec	1.98	
New Jersey.							
Allaire	49.6	96	June	-14	Jan	....
Ashbury Park	51.0	97*	June	-4*	Jan	49.42	
Barnegat	50.8	98	July	-5	Jan	44.61	
Bayonne	51.2	100	June	-3	Jan	48.70	
Beverly	50.1	103	June	-13	Jan	49.95	
Billingeport	52.0	98	July	-4	Jan	38.72	
Boonton						54.69	
Bridgeton	54.6	98	June	-5	Jan	43.22	
Camden	51.6	97	June	-7	Jan	46.41	
Cape May	52.4	95	July	-7	Jan	42.07	
Deckertown	47.4	96	June	-4	Jan	50.72	
Dover	47.5	97	June	-13	Jan	52.74	
Egg Harbor City	50.7	99	June	-13	Jan	46.07	
Elizabeth	50.4	103	June	-2	Jan	52.07	
Franklinville	51.0	99	June	-18	Jan	47.28	
Freehold	50.8	94*	June	-4	Jan	49.68	
Friesburg						42.90	
Gillette	43.7	98	June	-18	Jan	50.13	
Hanover	49.7	94*	June	-18	Jan	43.90	
Highland Park	50.2	98	June	-10	Jan	49.31	
Hightstown	50.1	100	June	-14	Jan	51.50	
Imlaystown	51.7	103	June	-6	Jan	50.18	
Junction						51.86	
Lambertville	50.3	97	June	-13	Jan	44.20	
Locktown	49.8	98	June	-3	Jan	49.66	
Millville	64.0					59.17	
Moorestown	51.2	98	June	-9	Jan	51.18	
Newark a	49.8	96	June	-1	Jan	52.06	
Newark b	50.4	97	June	-1	Jan	48.95	
New Brunswick a	51.3	100	June	-8	Jan	51.37	
New Brunswick b	49.8	96*	June	-10	Jan	52.88	
Newton	47.3	101	June	-10	Jan	43.20	
Ocean City	51.9	93	July	-4	Jan	45.87	
Paterson	53.0	101	June	-5	Jan	52.87	
Pensauken	51.7	101	June	0	Jan	54.19	
Plainfield	50.5	100	June	-8	Jan	43.08	
Rancocas	48.5	98	June	-9	Jan	51.91	
Readington	64.1	96	June	-4	Jan	45.71	
River Vale	49.8	99	Aug	-21	Jan	47.94	
Salem	51.9	102	July	-5	Jan	40.62	
Somerville	50.8	99	July	-20	Jan	52.27	
South Orange	49.5	97	June	-2	Jan	54.66	
Tenafly	43.1	95*	June	-20	Jan	56.51	
Toms River	50.4	99	June	-15	Jan	52.57	
Trenton	52.8	98	July	-5	Jan	46.33	

TABLE II.—Voluntary stations—Continued.

State and station.	Mean for 1893.	Temperature—degrees Fahrenheit.				Precipitation. Inches.	
		Extremes for 1893.					
		Max.	Month.	Min.	Month.		
New Jersey—Continued.							
Vineland	53.1	102	July	-10	Jan	12.53	
Whiting	52.1	101	June	-15	Jan	7.42	
Woodbine	50.9	95	July	-15	Jan	43.26	
New Mexico.							
Albert	58.4	104*	June	11	Feb	39.40	
Albuquerque	56.2	98	July	11	Dec	24.70	
Chama	46.0	103	June	-12	Dec	12.60	
Deming	68.6	108	June	18	Dec	11.19	
Estancia Spring						15.47	
Fort Bayard	55.7	99*	June	13	Dec	13.04	
Gallinas Spring	56.0	107	July	-17	Dec	15.35	
Hulls Peak	45.4	91	July	-17	Dec	10.66	
Lat Lutz						10.82	
Las Cruces						19.99	
Las Vegas	50.6	94	July	3	Dec	9.32	
Lordsburg						8.40	
Los Lunas	52.2	103	July	13	Jan	5.02	
Olio	52.6	101*	June	10	Jan	6.06	
Socorro	58.5	102	June	-1	Jan	16.26	
Taos	47.6	99	July	-1	Jan	10.22	
New York.							
Addison	45.6	93	June	-14	Jan	35.37	
Alfred Center	43.0	93	Aug	-10	Dec	44.27	
Angelica	43.1	93	Aug	-23	Jan	39.97	
Arcade	42.4	90	Aug	-9	Jan	46.47	
Atlanta						37.12	
Baldwinsville	45.3	93	Aug	-5	Feb	45.22	
Binghamton	45.1	93	Aug	-26	Jan	39.93	
Brookfield	42.9	92	Aug	-10	Dec	36.39	
Cherry Creek						63.02	
Cooperstown	42.8	89	Aug	-10	Feb	44.87	
Cortland	43.9	86*	June	-12	Jan	38.65	
Demarest						37.85	
Eden Center	45.8	99	Aug	-10	Feb	71.05	
Factoryville	46.2	97	Aug	-22	Jan	42.31	
Fleming	46.0	94	Aug	-5	Jan	24.59	
Friendship	44.3	93	Aug	-20	Dec	40.22	
Gloversville	42.2	94	Aug	-13	Feb	41.59	
Honey mead Brook	45.3	94	June	-13	Jan	48.67	
Humphrey	44.7	90	Aug	-8	Jan	52.42	
Ithaca	45.2	93	June	-12	Jan	37.58	
Kings Station						50.97	
Lebanon Springs	43.6	91	Aug	-13	Jan	....
Le Roy	45.0	92	Aug	-7	Jan	48.58	
Lockport	46.2	94	Aug	-5	Jan	46.48	
Lowville	41.5	94	Aug	-20	Dec	46.31	
Lyons	46.7	92*	July	-2	Jan	36.25	
Malone	40.6	90	Aug	-21	Jan	43.63	
Middletown						43.63	
Minnewaska						50.22	
Mount Morris	45.5	95	July	-10	Jan	40.23	
Newark	42.7	89	June	-21	Jan	40.89	
New Lisbon	42.7	88	Aug	-21	Jan	50.91	
Number Four	45.5	95*	July	-10	Jan	....
Oxford	44.2	93	June	-15	Jan	48.22	
Palermo	43.8	98	Aug	-9*	Jan	36.60	
Perry	43.5	95	Aug	-14	Jan	37.90	
Phoenix						41.93	
Port Jervis	46.7	93	June	-12	Jan	50.70	
Potsdam						41.72	
Poughkeepsie	47.0	98	June	-19	Jan	41.15	
Ronulius	46.6	96*	June	-5	Jan	29.74	
Rondout						54.39	
Setauket	49.0	94	July	2	Jan	48.65	
South Canisteo	43.7	93	Aug	-12	Jan	44.50	
South Kortright	42.8	92	June	-14	Jan	42.89	
Turin	40.3	89	Aug	-20	Jan	54.01	
Wappingers Falls						51.35	
Wedgwood	43.4	96	Aug	-9	Jan	39.95	
North Carolina.							
Asheville	54.1	90	July	-9	Jan	46.90	
Bakersville	52.6	93	July	-17	Jan	51.04	
Blowing Rock	50.5	86	July	-7	Jan	....
Bailey						55.93	
Chapel Hill	58.9	101	July	-1	Jan	49.06	
Columbus	53.6	88	July	0	Jan	86.79	
Experimental Farm	59.3	99	July	2	Jan	46.50	
Highlands	49.8	85	July	-7	Jan	90.04	
Horse Cove	54.0	91	July	-3	Jan	72.61	
Lenoir	55.4	92	July	-15	Jan	51.91	
Littleton	57.1						

TABLE II.—*Voluntary stations*—Continued.

State and station.	Temperature—degrees Fahrenheit.						Inches. Precipitation.	
	Extremes for 1893.							
	Mean for 1893.	Max.	Month.	Min.	Month.			
North Dakota—Continued.	0	0		0	Feb.	16.74		
Church Ferry	33.8	103	Aug.	-43	Jan.	11.63	Inches.	
Dickinson	38.2	108	July	-47	Jan.	15.77	Blooming Grove	
Ellendale	37.6	101*	June	-41*	Jan.	18.11	Bloomsburg	
Fargo	34.9	101	June	-41	Feb.	18.94	Blue Knob	
Forman	38.3	102	Aug.	-53	Feb.	18.94	Brookville	
Fort Yates	40.5	105	Aug.	-31	Feb.	16.30	Carlisle	
Fort Stevenson	32.4	101	Aug.	-48	Jan.	14.90	Clarion	
Gallatin	34.2	104	July	-52	Feb.	12.07	Coatesville	
Grand Forks	34.0	99	June	-44	Feb.	17.90	Confluence	
Jamestown	37.2	106	July	-40	Feb.	17.90	Coopersburg	
Kelso	34.9	103	June	-44	Feb.	17.78	Davis Island Dam	
Minto	33.9	101	June	-43	Feb.	17.78	Doylestown	
Napoleon	36.6	104	Aug.	-44	Feb.	17.65	Drifton	
Power	37.1	102	June	-48	Feb.	17.65	Dubois	
St. John							Dyberry	
Wahpeton	37.2	101	June	-44	Feb.	18.31	East Mauch Chunk	
Wild Rice	34.4	98	Aug.	-39	Feb.	22.26	Easton	
Willow City	33.0	98	Aug.	-54	Feb.	12.36	Edinboro	
Woodbridge	30.5	97	Aug.	-50	Feb.	17.01	Emporium	
<i>Ohio.</i>								
Akron	49.3	95	July	-8	Jan.	41.20	Forks of Neshaminy	
Annapolis							Frederick	
Auburn	46.0	94	June	-14	Jan.	40.73	Freeport	
Bangorville	48.4	94*	Aug.	-14	Jan.	41.43	Gettysburg	
Bethany							Girardville	
Benton Ridge	49.7	100*	Aug.				Grampian	
Bissell							Greensboro	
Big Prairie	47.4	94	July	-9	Jan.	41.76	Hollidaysburg	
Cambridge	49.4	93*	July	-17	Jan.	42.28	Honesdale	
Canton							Huntingdon	
Carrollton	49.7	98	Aug.	-11	Jan.	39.00	Johnstown	
Celina	51.3	95	July	-12	Jan.	34.88	Kennett Square	
Cherry Fork							Kilmer	
Clarksville	51.4	96	July	-16	Jan.	40.95	Lansdale	
Cleveland	48.7	92	July	-6	Jan.	40.95	Lebanon	
Coatton	52.8	100*	July	-12	Jan.	31.84	Le Roy	
Colebrook							Lock Haven	
Dayton	52.8	97	July	-13	Jan.	42.39	Lock No. 4	
Ellsworth							Lycippus	
Elyria	49.1	98	Aug.	-8	Jan.	35.93	Mahoning	
Findlay	48.4	95	July	-14	Jan.	37.28	New Castle	
Frankfort							Oil City	
Garrettsville	46.0	95	July	-15	Jan.	40.95	Ottsville	
Gratiot	50.3	94	July	-17	Jan.	39.23	Parkers Landing	
Green Hill							Philadelphia	
Greenville	49.5	91	July	-17	Jan.	41.21	Phenixville	
Hackney							Point Pleasant	
Hanging Rock	52.5	96	July	-20	Jan.	44.37	Pottstown	
Harbor	47.9	91	July	-8	Jan.	40.63	Quakerstown	
Hillhouse							Reading	
Hiram	47.0	94	July	-11	Jan.	44.10	Ridgway	
Jacksonboro	50.8	98*	July	-17	Jan.	45.75	Saegerstown	
Kenton	49.8	98	Aug.	-10	Jan.	37.35	Salem Corners	
Killbuck							Salisbury	
Levering							Seisoltzville	
Logan	52.2	98*	July	-18	Jan.	40.95	Selins Grove	
Lowell							Smithport	
Lordstown	46.9	94	July	-9	Jan.	45.91	Smiths Corners	
Marietta	54.0	94	July	-8	Jan.	39.12	Somerset	
Marion	48.8	97	July	-17	Jan.	40.49	South Eaton	
McConnellsburg	51.3	96	July	-17	Jan.	37.07	State College	
Milligan	50.9	100	June	-24	Jan.	39.29	Stoystown	
Milfordtown							Warren	
Montpelier	47.0	97	Aug.	-15	Jan.	31.25	Wellsboro	
New Alexandria	50.5	95	July	-9	Jan.	36.25	West Chester	
New Berlin							West Newton	
New Comerstown	49.0	96	July	-18	Jan.	47.86	Wilkesbarre	
New Holland	50.6	100	July	-18	Jan.	46.77	York	
North Lewisburg	51.0	100	July	-14	Jan.	49.50	<i>South Carolina.</i>	
New Royalston							Camden	
Oberlin	48.6	96	Aug.	-12	Jan.	43.91	Cheraw a	
Ohio State University	50.5	96*	July	-17	Jan.	34.73	Cheraw b	
Pataskala	50.0	97	July	-15	Jan.	33.50	Effingham	
Pomeroy	52.6	100	July	-16	Jan.	33.02	Greenville	
Portsmouth	54.0	100	June	-11	Jan.	39.11	Longshore	
Ridgeville Corners							Mount Carmel	
Sharon Center							Nichols	
Springboro							Port Royal	
Thurman	54.0	101	July	-18	Jan.	34.78	St. Stephens	
Upper Sandusky							Society Hill	
Van Wert	49.8	93	Sept.	-15	Jan.	33.70	Statesburg	
Vanceburg	47.6	97	July	-24	Jan.	35.37	Tillers Ferry	
Walnut							Trial	
Warren	47.8	98	July	-10	Jan.	41.42	Wateree	
Wauseon	47.4	97	Sept.	-15	Jan.	41.97	Yorkville	
Waverly	53.0	99	July	-17	Jan.	36.84	<i>South Dakota.</i>	
Waynesville							Aberdeen	
Westerville	49.9	94	July	-17	Jan.	40.04	Alexandria	
Wheeler							Ashcroft	
Wooster	49.3	95*	July	-9	Jan.	40.82	Bowdrie	
Youngstown	48.3	97	July	-12	Jan.	40.88	Brookings	
<i>Oklahoma.</i>								
Anadarko	61.3	106*	June	-6	Jan.	21.22	Bear Valley	
Burnett	60.0	101	Sept.	-7	Jan.	27.75	Castlewood	
Fort Reno	60.2	104	June	4*	Jan.	48.28	Cross	
Fort Sill	60.4	105	Sept.	5	Jan.	48.28	De Smet	
Fort Supply	58.0	111	June	-2	Feb.	42.1	Faulkton	
Keokuk Falls	57.5	100*	June	0	Jan.	24.19	Flandreau	
Mangum	61.2	106	Sept.	9	Feb.	13.75	Forestburg	
<i>Pennsylvania.</i>								
Aqueduct	50.7	102	July	-10	Jan.	45.13	Frankfort	

TABLE II.—*Voluntary stations*—Continued.

State and station.	Temperature—degrees Fahrenheit.						Inches. Precipitation.	
	Extremes for 1893.							
	Mean for 1893.	Max.	Month.	Min.	Month.			
Blooming Grove	45.7	100	June	-14	Jan.	44.45		
Blue Knob	49.3	97	Aug.	-13	Jan.	36.84		
Brookville	45.4	91	June	-13	Jan.	54.51		
Carlisle	43.8	100	June	-10	Jan.	43.59		
Clarion							37.47	
Coatesville	49.4	98	June	-12	Jan.	58.56		
Confluence							49.60	
Coopersburg	48.9	93	June	-5	Jan.	43.39		
Davis Island Dam							46.84	
Doylestown							36.71	
Drifton	45.4	94	June	-9	Jan.	48.55		
Dubois							47.97	
Dyberry	43.3	95	June	-22	Jan.	45.11		
East Mauch Chunk	48.1	99	June	-13	Jan.	47.94		
Easton	49.0	97	June	-14	Jan.	44.25		
Edinboro							44.25	
Emporium	44.9	93	June	-16	Jan.	42.92		
Forks of Neshaminy	50.5	95	June	-15	Jan.	46.64		
Frederick							43.15	
Freeport							43.55	
Gettysburg							39.95	
Girardville	47.9	94	June	-4	Jan.	52.92		
Grampian	45.8	94*	June	-15	Jan.	45.11		
Greensboro							33.76	
Hollidaysburg	49.2	98*	June	-20	Jan.	39.46		
Honesdale	45.0	89	June	-19	Jan.	41.55		
Huntingdon	49.2	99*	July	-13	Jan.	42.05		
Johnstown							44.11	
Kennett Square	49.6	100	July	-6	Jan.	42.80		
Kilmer							43.41	
Lansdale							45.81	
Lebanon	49.3	98	June	-10	Jan.	45.81		
Lock Haven	45.3	96	Aug.	-10	Jan.	42.95		
Lock No. 4							38.31	
Lycippus							41.87	
Mahoning							51.38	
New Castle	49.8	96	July	-12	Jan.	42.80		
Oil City							49.97	
Ottsville	49.8	96	Aug.	-8	Jan.	46.51		
Parkers Landing							52.50	
Philadelphia	53.2	98	June	o	Jan.	45.23		
Phenixville	51.6	98	July	-12	Jan.	43.92		
Point Pleasant							52.35	
Pottstown	51.7	98*	June	-11	Jan.	47.90		
Quakerstown	48.2	102	July	-14	Jan.	52.63		
Reading							38.68	
Ridgway							39.29	
Ridgway							51.62	
Saegerstown	45.5	94	Aug.	-25	Jan.	49.35		
Salem Corners	44.2	92*	June	-10	Jan.	35.00		
Salisbury							35.00	
Seisoltzville							44.80	
Selins Grove	49.9	99	June	-12	Jan.	46.56		
Smithport	44.2	91*	June	-15	Jan.	51.55		
Smiths Corners							45.00	
Somerset	46.9	96	Aug.	-14	Jan.	40.57		
South Eaton	40.8	91	June	-18	Jan.	43.21		
State College	47.4	92*	June	-7	Jan.	47.91		
Stoystown							48.71	
Warren							49.15	
Wellsboro	42.7	92	June	-16	Jan.	43.19		
West Chester	50.9	95	June	-4	Jan.	37.93		
West Newton							42.36	
Wilkesbarre	49.5	97	Aug.	-8	Jan.	42.36		
York	50.5	98*	June	-14	Jan.	37.03		
<i>South Carolina.</i>								
Camden							45.11	
Cheraw a	61.5	104	July	3	Jan.	48.00		
Cheraw b							55.55	
Effingham							53.81	
Greenville							50.34	

TABLE II.—Voluntary stations—Continued.

State and station.	Temperature—degrees Fahrenheit.					Precipitation. Inches.	
	Mean for 1893.	Extremes for 1893.					
		Max.	Month.	Min.	Month.		
<i>South Dakota—Continued.</i>	o	o	o	o	o	18.30	
Howard	41.3	104	July	17.78			
Kimball	43.3	104	July	19.42			
Mellette	42.4	110	June	-30	Feb	15.82	
Oelrichs	46.6	110	July	-27	Feb	22.01	
Parker	42.6	101	July	-27	Feb	17.38	
Parkston	42.6	101	July	-27	Feb	22.33	
Rosebud	46.0	105	June	-30	Jan	22.85	
Sioux Falls	42.5	105	June	-30	Jan	19.31	
Spearfish	45.9	105	June	-30	Jan	16.05	
Tyndall	48.0	105	July	-42	Feb	27.91	
Watertown						14.40	
Webster	40.6	105	July	-42	Feb	20.07	
Wentworth	37.8	106	July	-26	Feb	18.33	
Wessington Springs	44.0	106	July	-26	Feb		
Wolsey	40.6	106	July	-26	Feb		
<i>Tennessee.</i>							
Andersonville	55.4	94	July	-14	Jan	38.32	
Ashwood	58.3	95	July	1	Jan	57.62	
Carthage						47.21	
Clarksville						48.44	
Covington	59.7	98	June	4	Jan	47.27	
Florence Station	58.0	95	July	0	Jan	43.81	
Franklin	58.0	93	July	-4	Jan	44.55	
Greeneville	58.0	93	July	-20	Jan	48.68	
Jacksonboro	54.8	90	July	-10	Jan	47.50	
Jackson	53.5	92	July	-3	Jan	52.84	
Lynnmville	58.7	99	July	-3	Jan	52.84	
Nunnelly	58.0	97	July	5	Jan	47.01	
Parksville						47.01	
Rogersville						46.55	
Rugby	54.9	92	July	-13	Jan	45.87	
Savannah	54.1	95	July	9	Jan	44.04	
Waynesboro	60.4	96	July	-4	Jan	47.78	
<i>Texas.</i>							
Albany	64.8	103	Sept	14	Feb	18.68	
Arlington	66.4	100	Sept	16	Feb	25.43	
Arthur City						24.92	
Aurora						15.00	
Boerne	64.3	101	May	22	Jan	16.96	
Brady	66.1	101	May	6	Jan	8.83	
Brazoria	69.1	98	July	26	Jan	28.80	
Brenham	70.4	102	Sept	27	Jan	28.30	
Brownwood	66.7	104	May	16	Jan	11.92	
Burnet	67.6	96	July	22	Jan	21.19	
Camp Eagle Pass	71.4	109	Sept	22	Jan	7.13	
Childress	60.0	107	June	6	Feb	19.08	
Coldwater						10.31	
College Station	69.2	107	Aug	25	Jan	29.73	
Columbia	70.0	98	July	27	Jan	19.41	
Cuero	70.9	102	July	26	Feb	23.83	
Dallas	64.6	102	Sept	15	Feb	28.93	
Devine						15.88	
Duval	69.4	107	Aug	24	Jan	15.80	
Eastland	64.2	105	July	12	Feb	16.21	
Flower Bluff	72.7	94	Apr	32	Dec	16.95	
Forestburg	63.2	104	July	14	Jan	19.92	
Fort Brown						14.36	
Fort Clark	71.1	107	Sept	23	Jan	6.45	
Fort Hancock	59.8	110	June	3	Jan	14.86	
Fort McIntosh	73.4	105	May	24	Jan	8.65	
Fort Ringgold	73.7	112	June	26	Jan	17.51	
Fredericksburg	62.2	102	Sept	22	Jan	16.22	
Gainesville						22.48	
Graham	65.3	107	July	12	Feb	21.88	
Grapvine	66.5	106	July	15	Jan	22.57	
Hallettsville	67.5	104	Sept	21	Jan	20.61	
Hartley	55.9	106	July	3	Feb	10.91	
Highland	66.5	110	Aug	13	Jan	14.56	
Houston	69.8	99	Sept	29	Jan	29.03	
Huntsville	69.9	100	Aug	26	Jan	32.03	
Llano						11.11	
McGregor	56.2	96	June	18	Feb	20.87	
Menardville	64.7	101	May	14	Jan	43.6	
Mountain Spring	64.8	105	Sept	14	Feb	8.51	
Paris						20.24	
Rockport	69.5	96	July	30	Jan	33.70	
Round Rock						16.22	
Sherman						10.55	
Sierra Blanca						14.00	
Silver Falls	62.3	108	June	14	Jan	15.51	
Stella						15.51	
Sulphur Springs	65.1	110	Aug	12	Jan	27.60	
Temple	65.8	100	Sept	19	Feb	22.08	
Waco	67.3	102	Sept	19	Feb	22.13	
<i>Utah.</i>							
Castle Gate	47.5	100	July	1	Feb	9.90	
Cisco	52.0	104	July	-10	Jan	7.35	
Deseret	47.8	99	July	-12	Jan	7.06	
Fillmore	51.2	102	July	-5	Jan	15.59	
Fort Du Chene						9.02	
Grouse Creek	40.1	96	Aug	-17	Jan	11.50	
Heber City	42.2	96	Aug	-12	Jan	17.84	
Lake Park	48.4	98	July	5	Jan	15.51	
Levan	46.0	88	July	-5	Jan	15.75	
Loa	43.4	96	July	-13	Feb	7.92	
Loosee	46.9	95	July	-5	Dec	12.45	
Moab	53.5	103	June	-2	Jan	8.25	
Parowan	48.5	99	Aug	5	Jan	12.80	
St. George	59.0	112	Aug	14	Jan	6.73	
Scofield	37.1	88	July	-32	Feb	16.08	
Snowville	43.7	93	July	-7	Jan	10.96	

TABLE II.—Voluntary stations—Continued.

State and station.	Temperature—degrees Fahrenheit.					Precipitation. Inches.	
	Mean for 1893.	Extremes for 1893.					
		Max.	Month.	Min.	Month.		
<i>Virginia.</i>	o	o	o	o	o	Inches.	
Alexandria	56.9*	96	June	-16	Jan	51.60	
Ashland	56.9	96	July	-15	Jan		
Avon	57.2	97	June	-1	Jan	47.27	
Bedford City	55.6	95	July	-26	Jan	52.74	
Big Stone Gap	54.0	93	July	2	Jan	52.25	
Birdsboro	57.2	93	July	-3	Jan	38.38	
Blackburg	52.3	92	July	-1	Jan	56.09	
Cape Charles	52.3	98	July	-16	Jan	40.30	
Charlottesville	52.1	96	July	-16	Jan		
Dale Enterprise	52.1	100	July	-17	Jan	38.47	
Fredericksburg						38.31	
Hampton	57.3	97	July	-11	Jan	39.81	
Hot Springs	50.3	99	July	-14	Jan	54.34	
Irwin	55.4	95	July	-11	Jan	42.56	
Lexington	53.7	93	July	-11	Jan		
<i>Washington.</i>							
Aberdeen	49.2	93	Aug	10	Jan	88.13	
Colfax	45.5	94*	July	-17	Feb	28.47	
East Sound	48.7	84	July	-6	Jan	38.31	
Terry						69.36	
Fort Spokane	45.2	102	Aug	-29	Feb		
Fort Townsend	47.9	85	Aug	-3	Jan	27.94	
Madrone	48.5	86	Aug	0	Jan	51.30	
Moxee Valley	50.1	80	June	-3	Jan	10.91	
Oliga	47.3	98	July	-15	Jan	36.60	
Pullman	45.1	98	July	-14	Jan	22.18	
Rosalia	43.8	96	July	-20	Feb	21.76	
Silver Creek	45.4	98	Aug	22	Feb	65.86	
Simeeo	47.1	90	Aug	5	Jan		
Tacoma	45.7	90	Aug	-5	Jan	48.00	
Waterville	42.7	97*	July	-30	Jan	15.74	
<i>West Virginia.</i>							
Bluefield	50.8	90*	July	-8	Jan	52.52	
Buckhannon							
Central	55.5	91	July	-18	Jan	46.04	
Davis							
Elkhorn	53.8	92	July	-14	Jan	47.42	
Ella	50.5	95	July	-6	Jan	41.86	
Glenville	51.9	93	Aug	-8	Jan	37.93	
Grafton	52.0	95	Aug	-14	Jan		
Huntington							
Kingwood							
Martinsburg	51.6	97	Aug	2	Jan	38.11	
Morgantown							
New Cumberland	53.3	98	Aug	-12	Jan	42.66	
New Martinsville							
Nuttallburg							
Pleasant Hill	48.0	91	Aug	-8	Jan		
Point Pleasant							
Spencer							
Tumery	50.9	95	July	-10	Jan		
Weston							
Wheeling	54.4	97	July	-3	Jan	42.22	
<i>Wisconsin.</i>							
Amherst	40.3	96	July	-29	Jan	32.40	
Baraboo	43.3	97	Aug	-24	Feb	30.91	
Baron	38.5	97*	July	-38	Jan		
Beaver Dam	43.9	92	July	-20	Feb	30.86	
Beloit	45.1	95	Aug	-20	Jan	32.53	
Black River Falls	40.9	99	July	-36	Jan	28.30	
Centralia	41.2	97	June	-33	Jan	22.00	
Chippewa Falls						21.85	
Columbus	43.2	96	Aug	-25	Feb		
Crandon							
Delavan	45.9	98*	Aug	-24	Jan	27.92	
Eau Claire	40.7	97	July	-29	Jan	33.71	
Florence	38.2	96	July	-32	Jan	32.00	
Fond du Lac	41.5	94*	July	-29	Jan	29.73	
Grantsburg	39.5	97	June	-27	Feb	22.99	
Harvey	43.0	97	Aug	-23	Feb	29.71	
Hillsboro	40.9	93	July	-32	Jan	31.66	
Janesville	43.6	92*	July	-16	Jan	24.81	
Koepenick	41.8	96	June	-26	Jan	29.65	
Lancaster	42.3	94*	July	-24	Feb	29.74	
Madison	43.5	92	June	-21	Feb	31.43	
Manitowoc	40.5	92	July	-21	Feb	30.95	
Medford							
Menominee	39.9	97	July	-32	Jan	26.61	
Neillsville	39.5	90*	June	-36	Jan	33.47	
Oconomowoc	44.1	95	Aug	-27	Jan	30.21	
Oconto	41.8	95	July	-24	Jan	29.12	
Osceola	40.2	104	July	-40	Jan	23.37	
Portage						23.37	
Prairie du Chien	44.3	98	July	-26	Jan	29.45	
Raymond	43.0	96	Aug	-19	Feb	35.22	
Reedsburg	41.8	92*	June	-32	Jan	27.28	
Sharon	43.2	96	Aug	-18	Jan	32.89	
Shawano	41						

TABLE II.—*Voluntary stations*—Continued.

State and station.	Temperature—degrees Fahrenheit.					Precipitation.	
	Mean for 1893.	Extremes for 1893.					
		Max.	Month.	Min.	Month.		
<i>Wyoming</i> —Continued.	°	°		°		Inches.	
Lander	44.2	94	July	-10	Feb	11.67	
Laramie	40.7	87	July	-9	Feb	3.84	
Saratoga	39.6	89	July	-13*	Jan	15.04	
Wheatland	48.8	108	June	-15	Jan	5.92	

NOTE.—Bold face figures indicate that a portion of the year's record (not more than three months in any case) has been supplied by interpolation by the Records Division.

* Occurred in other months also.

TABLE III.—*Canadian stations*.

Stations.	Reduced pressure.	Temperatu-	Total pre-
	Inches.	°	Inches.
Halifax, N. S.	29.97	42.2	55.42
Grand Manan, N. S.	29.96	42.1	44.07
Yarmouth, N. S.	29.98	42.2	54.13

TABLE III.—*Canadian stations*—Continued.

Stations.	Reduced pressure.	Temperatu-	Total pre-
	Inches.	°	Inches.
St. Andrews, N. B.	29.94	40.3	36.51
Charlottetown, P. E. I.	29.93	40.8	42.39
Chatham, N. B.	29.93	37.3	39.66
Quebec, Que.	29.97	36.9	35.91
Rockcliffe, Ont.	29.96	34.6	34.28
Kingston, Ont.	29.99	41.6	36.56
Toronto, Ont.	30.00	42.6	39.06
White River, Ont.	30.01	30.8	22.90
Port Stanley, Ont.	30.01	43.3	40.94
Saugeen, Ont.	30.00	41.3	35.18
Parry Sound, Ont.	29.98	38.3	48.03
Port Arthur, Ont.	29.95	32.1	23.15
Winnipeg, Man.	29.98	29.6	23.93
Minnedosa, Man.	29.94	29.7	13.35
Qu'Appelle, Assinibouia	29.97	29.8	16.35
Medicine Hat, Assinibouia	29.94	37.2	14.60
Swift Current, Assinibouia	29.98	33.8	14.54
Spences Bridge, B. C.	29.98	45.1	9.33
Edmonton, Alberta	29.96	33.0	17.87
Battleford, Saskatchewan	29.95	29.1	10.93
Prince Albert, Saskatchewan	29.94	27.0	10.53
Hamilton, Bermuda	30.11	69.3	62.94

TABLE IV.—Resultant winds from observations at 8 a. m. and 8 p. m., daily, during the year 1893.

Number.	Station.	Component direction from—				Resultant.		Number.	Station.	Component direction from—				Resultant.	
		N.	S.	E.	W.	Direction from—	Dura-			N.	S.	E.	W.	Direction from—	Dura-
1	New England.	Hours.	Hours.	Hours.	Hours.	o	Hours.	72	Upper Lake Region—Cont'd.	Hours.	Hours.	Hours.	Hours.	o	Hours.
2	Eastport, Me.	247	208	111	344	n. 80 w.	236	72	Milwaukee, Wis.	220	220	185	286	.. . w.	101
3	Portland, Me.	224	233	116	312	s. 87 w.	196	73	Green Bay, Wis.	214	310	131	227	s. 45 w.	136
4	Northfield, Vt.	233	393	65	114	s. 17 w.	167	74	Duluth, Minn.	302	73	242	264	n. 5 w.	236
5	Boston, Mass.	207	190	126	304	n. 86 w.	239	75	Moorhead, Minn.	297	241	125	194	n. 49 w.	94
6	Nantucket, Mass.	274	188	163	287	n. 55 w.	151	76	Saint Vincent, Minn.	269	205	175	196	s. 18 w.	67
7	Woods Hole, Mass.	95	119	79	166	s. 74 w.	90	77	Bismarck, N. Dak.	303	166	201	236	n. 15 w.	141
8	Block Island, R. I.	245	188	188	329	n. 68 w.	152	78	Williston, N. Dak.	212	163	212	273	n. 51 w.	79
9	New Haven, Conn.	317	187	154	242	n. 34 w.	157	79	Upper Mississippi Valley.						
10	New London, Conn.	297	177	146	333	n. 57 w.	222	79	Saint Paul, Minn.	164	259	223	294	s. 37 w.	119
11	Middle Atlantic States.							80	La Crosse, Wis.	201	275	135	243	s. 56 w.	131
12	Albany, N. Y.	140	292	103	223	s. 39 w.	193	81	Laporter, Iowa.	147	200	214	311	s. 62 w.	111
13	New York, N. Y.	249	252	177	271	s. 88 w.	94	82	Des Moines, Iowa.	232	197	211	254	n. 52 w.	55
14	Harrisburg, Pa.	218	133	229	277	n. 29 w.	98	83	Dubuque, Iowa.	188	239	199	280	s. 57 w.	96
15	Philadelphia, Pa.	264	193	183	269	n. 50 w.	109	84	Keokuk, Iowa.	215	236	177	283	s. 79 w.	108
16	Atlantic City, N. J.	229	217	175	275	n. 83 w.	101	85	Cairo, Ill.	234	280	152	196	s. 42 w.	64
17	Baltimore, Md.	235	188	202	264	n. 46 w.	84	86	Springfield, Ill.	231	252	137	262	s. 61 w.	127
18	Washington, D. C.	260	225	104	221	n. 53 w.	64	87	Hannibal, Mo.	214	230	104	267	s. 81 w.	104
19	Lynchburg, Va.	230	187	234	259	n. 32 w.	88	88	Saint Louis, Mo.	209	273	192	218	s. 22 w.	69
20	Norfolk, Va.	255	220	234	205	n. 41 e.	45	Missouri Valley.							
21	South Atlantic States.							90	Kansas City, Mo.	230	280	237	170	s. 52 e.	84
22	Charlotte, N. C.	179	275	244	206	s. 22 w.	103	91	Springfield, Mo.	151	309	256	148	s. 40 e.	166
23	Hatteras, N. C.	251	215	182	211	n. 39 w.	46	92	Omaha, Neb.	249	265	185	183	s. 7 e.	16
24	Kittyhawk, N. C.	249	221	214	238	n. 41 w.	37	94	Sioux City, Iowa.	275	260	202	141	n. 76 e.	63
25	Raleigh, N. C.	240	185	127	313	n. 74 w.	194	95	Pierre, S. Dak.	147	162	259	230	s. 62 e.	33
26	Southport, N. C.	246	189	201	267	n. 49 w.	87	96	Huron, S. Dak.	271	218	214	224	n. 10 w.	54
27	Wilmington, N. C.	233	243	196	247	s. 79 w.	52	97	Yankton, S. Dak.	255	215	228	249	n. 27 w.	45
28	Charleston, S. C.	203	234	218	247	s. 43 w.	42	98	Havre, Mont.	232	137	165	364	n. 64 w.	221
29	Augusta, Ga.	232	224	216	202	n. 60 w.	16	99	Miles City, Mont.	222	196	197	265	s. 09 w.	73
30	Savannah, Ga.	268	269	203	229	s. 23 w.	66	100	Helena, Mont.	97	318	52	460	s. 62 w.	404
31	Jacksonville, Fla.	251	239	204	201	n. 14 e.	12	101	Rapid City, S. Dak.	240	185	127	313	n. 73 w.	194
32	Florida Peninsula.							102	Cheyenne, Wyo.	271	162	79	365	n. 09 w.	306
33	Eastern Gulf States.							103	Lander, Wyo.	145	227	121	359	s. 71 w.	252
34	Atlanta, Ga.	231	193	221	281	n. 58 w.	71	104	Kearney, Nebr.	252	242	195	235	n. 26 w.	42
35	Pensacola, Fla.	255	200	174	200	s. 79 w.	26	105	North Platte, Nebr.	195	253	169	185	s. 16 w.	60
36	Mobile, Ala.	316	233	113	204	n. 48 w.	143	106	Colorado Springs, Colo.	399	172	138	131	s. 2 e.	227
37	Montgomery, Ala.	135	206	220	200	s. 16 e.	74	107	Denver, Colo.	223	279	162	232	s. 51 w.	90
38	Meridian, Miss.	253	246	211	164	n. 76 e.	49	109	Pikes Peak, Colo.	214	172	95	410	s. 82 w.	318
39	Vicksburg, Miss.	217	269	210	163	s. 43 e.	70	110	Pueblo, Colo.	249	112	215	295	n. 65 w.	88
40	New Orleans, La.	236	255	266	130	s. 82 e.	137	111	Concordia, Kans.	211	293	170	177	s. 5 w.	83
41	Western Gulf States.							112	Dodge City, Kans.	241	265	275	146	s. 80 w.	131
42	Shreveport, La.	179	341	234	126	s. 35 e.	194	113	Wichita, Kans.	235	335	186	111	s. 53 e.	125
43	Fort Smith, Ark.	150	167	280	134	s. 86 e.	247	114	Oklahoma, Okla.	215	347	203	127	s. 30 e.	152
44	Little Rock, Ark.	192	254	212	235	s. 20 w.	66	115	Ahilene, Tex.	173	389	182	120	s. 16 e.	225
45	Corpus Christi, Tex.	197	298	366	73	s. 71 e.	310	115	Amarillo, Tex.	180	389	103	151	n. 13 w.	214
46	Galveston, Tex.	162	346	277	25	s. 40 e.	239	116	El Paso, Tex.	242	72	241	324	s. 25 w.	189
47	Palestine, Tex.	234	279	203	170	s. 36 e.	56	117	Santa Fe, N. Mex.	216	262	277	185	s. 63 e.	103
48	San Antonio, Tex.	179	253	263	78	s. 49 e.	112	118	Tucson, Ariz.	207	301	203	237	s. 19 w.	100
49	Ohio Valley and Tennessee.							119	Yuma, Ariz.	247	186	163	267	n. 60 w.	121
50	Chattanooga, Tenn.	230	243	160	256	s. 83 w.	97	120	Keeler, Cal.	207	208	163	255	.. . w.	92
51	Knoxville, Tenn.	230	138	233	252	n. 12 w.	94	121	Middle Plateau.						
52	Memphis, Tenn.	251	256	161	208	s. 84 w.	47	122	Winnemucca, Nev.	177	224	184	304	s. 68 w.	129
53	Nashville, Tenn.	252	252	175	214	.. . w.	39	123	Salt Lake City, Utah.	211	199	247	239	n. 34 e.	15
54	Lexington, Ky.	194	293	184	302	s. 50 w.	154	124	Baker City, Oreg.	188	361	192	180	s. 4 e.	173
55	Louisville, Ky.	217	277	167	239	s. 50 w.	94	125	Idaho Falls, Idaho.	181	145	62	274	n. 72 w.	224
56	Indianapolis, Ind.	204	248	198	161	s. 21 e.	47	126	Spokane, Wash.	138	383	174	163	s. 2 e.	245
57	Cincinnati, Ohio.	196	250	258	249	s. 9 e.	55	127	Walla Walla, Wash.	87	158	120	484	s. 79 w.	371
58	Columbus, Ohio.	207	229	198	251	s. 67 w.	66	128	North Pacific Coast Region.						
59	Pittsburg, Pa.	228	205	184	285	n. 76 w.	103	129	Fort Canby, Wash.	229	250	174	210	s. 60 w.	41
60	Parkersburg, W. Va.	182	272	189	219	s. 18 w.	100	130	Olympia, Wash.	149	329	93	219	s. 40 w.	106
61	Lower Lake Region.							131	Port Angeles, Wash.	72	353	132	276	s. 27 w.	316
62	Buffalo, N. Y.	186	250	161	331	s. 69 w.	182	132	Tatofish Island, Wash.	44	282	201	274	s. 3 w.	238
63	Oswego, N. Y.	160	316	162	267	s. 35 w.	183	133	Portland, Oreg.	293	269	92	233	n. 80 w.	143
64	Rochester, N. Y.	127	325	150	347	s. 45 w.	279	134	Roseburg, Oreg.	252	196	188	253	n. 50 w.	90
65	Erie, Pa.	145	300	148	304	s. 45 w.	220	135	Middle Pacific Coast Region.						
66	Cleveland, Ohio.	172	298	243	238	s. 2 e.	126	136	Eureka, Cal.	283	225	105	228	s. 65 w.	136
67	Sandusky, Ohio.	143	233	205	296	s. 45 w.	128	137	Red Bluff, Cal.	268	239	193	256	s. 66 w.	69
68	Toledo, Ohio.	206	215	177	309	s. 86 w.	134	138	Sacramento, Cal.	167	302	148	196	s. 19 w.	143
69	Detroit, Mich.	177	146	210	308	n. 72 w.	103	139	San Francisco, Cal.	81	307	77	375	s. 74 w.	310
70	Alpena, Mich.	198	219	186	289	s. 79 w.	105	140	South Pacific Coast Region.						
71	Grand Haven, Mich.	175	211	218	295	s. 66 w.	85	141	Fresno, Cal.	364	92	131	377	s. 42 w.	367
72	Marquette, Mich.	246	217	122	309	n. 82 w.	189	142	Los Angeles, Cal.	221	90	210	354	n. 47 w.	104
73	Port Huron, Mich.	204	286	165	253	s. 47 w.	120	143	San Diego, Cal.	209	149	85	420	n. 80 w.	340
74	Baile Ste. Marie, Mich.	215	231	283	231	s. 73 e.	54	144							
75	Chicago, Ill.	199	257	206	267	s. 46 w.	84	145							

NOTE.—Stations whose records cover only a part of the year are omitted.—C. A.

TABLE V.—*Accumulated departures of average monthly temperatures during 1893.*

Districts.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual average.
New England.....	— 7.1	— 9.7	— 10.7	— 12.3	— 12.7	— 12.9	— 13.4	— 12.7	— 15.5	— 13.3	— 13.9	— 16.1	— 1.34
Middle Atlantic States.....	— 9.0	— 11.1	— 12.1	— 11.2	— 12.1	— 11.3	— 11.4	— 10.4	— 12.0	— 12.0	— 14.1	— 13.6	— 1.13
South Atlantic States.....	— 8.2	— 7.9	— 9.1	— 5.5	— 6.5	— 7.3	— 6.7	— 7.4	— 6.3	— 6.6	— 7.8	— 6.1	— 0.51
Key West, Fla.....	— 6.3	— 6.2	— 5.5	— 3.9	— 3.9	— 5.1	— 6.1	— 6.4	— 6.0	— 5.8	— 5.4	— 4.9	— 0.41
East Gulf States.....	— 4.3	— 3.3	— 5.0	— 2.5	— 3.0	— 3.5	— 2.9	— 2.6	— 1.5	— 3.3	— 4.7	— 2.9	— 0.24
West Gulf States.....	+ 1.4	+ 0.4	+ 1.7	+ 1.1	+ 0.2	+ 0.4	+ 0.6	+ 1.2	+ 1.2	+ 0.5	+ 1.2	+ 2.0	+ 0.17
Ohio Valley and Tennessee.....	— 7.0	— 8.7	— 9.0	— 7.2	— 9.5	— 9.3	— 7.9	— 7.3	— 5.9	— 6.5	— 8.8	— 8.7	— 0.72
Lower Lake region.....	— 8.1	— 11.6	— 11.2	— 11.6	— 13.2	— 10.0	— 9.9	— 9.1	— 9.9	— 8.2	— 9.6	— 12.0	— 1.00
Upper Lake region.....	— 6.2	— 10.2	— 10.1	— 11.9	— 13.9	— 10.3	— 9.5	— 9.0	— 9.0	— 7.4	— 8.1	— 12.4	— 1.03
Extreme northwest.....	+ 1.4	+ 4.6	+ 12.0	+ 19.3	+ 20.7	+ 18.1	+ 17.8	+ 16.9	+ 14.7	+ 15.9	+ 18.4	+ 25.6	+ 2.13
Upper Mississippi Valley.....	— 7.1	— 12.8	— 14.3	— 16.9	— 19.6	— 17.3	— 16.2	— 16.2	— 13.7	— 12.1	— 14.6	— 17.5	— 1.46
Missouri Valley.....	+ 0.5	+ 3.5	+ 0.3	+ 0.1	+ 12.1	+ 10.7	+ 10.4	+ 11.2	+ 7.6	+ 6.6	+ 9.2	+ 9.5	+ 0.79
Northern slope.....	+ 8.0	+ 2.2	+ 2.9	+ 8.5	+ 10.1	+ 10.4	+ 9.6	+ 9.9	+ 9.2	+ 10.7	+ 13.4	+ 10.4	+ 0.87
Middle slope.....	+ 9.2	+ 7.7	+ 6.4	+ 5.4	+ 2.8	+ 4.3	+ 4.7	+ 3.6	+ 5.9	+ 6.5	+ 4.7	+ 8.1	+ 0.68
Southern slope.....	+ 5.0	+ 2.9	+ 2.7	+ 7.5	+ 8.5	+ 12.2	+ 13.8	+ 13.6	+ 16.6	+ 17.4	+ 14.5	+ 18.8	+ 1.57
Southern plateau.....	+ 3.9	+ 4.1	+ 1.1	+ 0.1	+ 2.0	+ 0.2	+ 2.0	+ 3.1	+ 4.4	+ 5.8	+ 7.6	+ 7.0	+ 0.58
Middle plateau.....	+ 1.4	+ 6.2	+ 9.6	+ 13.9	+ 16.4	+ 16.5	+ 16.3	+ 17.0	+ 18.2	+ 17.6	+ 18.3	+ 15.9	+ 1.32
Northern plateau.....	+ 0.8	+ 4.9	+ 7.5	+ 13.6	+ 18.0	+ 23.0	+ 25.4	+ 25.6	+ 26.5	+ 29.9	+ 31.9	+ 30.1	+ 2.51
North Pacific.....	+ 1.7	+ 4.5	+ 6.5	+ 10.9	+ 13.3	+ 16.5	+ 17.6	+ 17.6	+ 19.6	+ 22.9	+ 25.6	+ 24.4	+ 2.03
Middle Pacific.....	+ 2.4	+ 4.1	+ 7.5	+ 11.4	+ 13.3	+ 14.8	+ 15.4	+ 16.4	+ 19.2	+ 20.7	+ 20.5	+ 20.1	+ 1.68
South Pacific.....	+ 4.0	+ 3.7	+ 0.1	+ 1.9	+ 3.6	+ 3.9	+ 4.8	+ 5.2	+ 9.9	+ 12.1	+ 14.4	+ 12.9	+ 1.08

TABLE VI.—*Accumulated departures of total monthly precipitations during 1893.*

Districts.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual sum.
New England.....	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Middle Atlantic States.....	— 1.6	— 0.2	— 0.4	— 0.0	+ 1.3	+ 0.5	— 1.4	— 0.7	— 1.8	— 3.1	— 5.0	— 3.6	— 3.6
South Atlantic States.....	— 1.5	— 0.2	— 1.5	— 1.4	— 0.0	— 0.0	— 1.4	— 1.5	— 1.3	— 1.1	— 0.7	— 1.3	— 1.3
Key West, Fla.....	+ 0.8	— 0.9	— 1.8	— 3.9	— 3.5	— 1.8	— 4.1	— 1.9	— 2.5	— 1.7	— 2.3	— 2.9	— 2.9
East Gulf States.....	— 2.5	— 3.7	— 5.5	— 7.3	— 6.2	— 6.8	— 5.9	— 8.8	— 13.9	— 15.4	— 17.5	— 15.2	— 18.2
West Gulf States.....	— 2.9	— 4.3	— 5.5	— 5.5	— 4.3	— 3.4	— 4.9	— 6.0	— 8.9	— 11.6	— 11.7	— 13.9	— 13.9
Ohio Valley and Tennessee.....	— 2.3	— 0.8	— 3.0	— 0.8	+ 1.6	+ 1.3	— 0.3	— 0.5	— 0.5	— 0.7	— 2.0	— 2.9	— 2.9
Lower Lake region.....	— 0.9	— 0.0	— 1.0	+ 0.4	+ 1.6	+ 0.3	— 1.0	— 0.5	— 2.0	— 1.8	— 2.5	— 2.1	— 2.1
Upper Lake region.....	+ 0.1	+ 0.2	+ 0.3	+ 1.7	+ 1.1	+ 0.1	+ 0.1	— 1.6	— 3.0	— 3.4	— 3.7	— 2.6	— 2.6
Extreme northwest.....	+ 0.4	+ 0.3	+ 0.7	+ 0.8	+ 0.8	+ 1.2	+ 0.4	— 0.1	— 0.9	— 1.5	— 1.6	— 1.0	— 1.0
Upper Mississippi Valley.....	— 1.1	— 1.0	— 0.6	+ 2.9	+ 3.0	+ 1.8	+ 0.5	— 1.5	— 2.0	— 3.3	— 3.8	— 4.4	— 4.4
Missouri Valley.....	— 0.6	— 0.7	— 0.1	+ 1.3	+ 0.3	— 0.3	+ 0.3	— 1.7	— 1.9	— 3.6	— 4.2	— 4.5	— 4.5
Northern slope.....	— 0.0	— 0.0	— 0.0	— 0.3	— 0.5	— 1.6	— 2.3	— 2.6	— 2.5	— 2.4	— 2.5	— 2.5	— 2.5
Middle slope.....	— 0.6	— 0.7	— 1.6	— 3.4	— 4.5	— 4.9	— 4.8	— 5.9	— 6.3	— 7.0	— 7.2	— 7.5	— 7.5
Southern slope.....	— 0.2	— 0.2	— 1.2	— 3.6	— 3.0	— 4.6	— 5.0	— 3.8	— 3.5	— 5.7	— 7.4	— 8.1	— 8.1
Southern plateau.....	— 0.2	— 0.2	— 0.2	— 0.1	+ 0.5	+ 0.1	+ 0.1	+ 1.2	+ 1.5	+ 0.9	+ 0.6	+ 0.4	+ 0.4
Middle plateau.....	+ 0.2	+ 0.9	+ 1.4	+ 1.3	+ 1.0	+ 0.5	+ 0.6	+ 0.8	+ 1.1	+ 0.6	+ 0.5	+ 0.3	+ 0.3
Northern plateau.....	+ 1.8	— 1.0	— 0.3	+ 2.3	+ 3.5	+ 2.3	+ 2.0	+ 1.6	+ 2.8	+ 4.0	+ 5.3	+ 4.2	+ 4.2
North Pacific.....	— 5.0	— 2.6	— 1.1	+ 4.2	+ 5.5	+ 6.3	+ 5.7	+ 5.0	+ 5.4	+ 6.6	+ 10.8	+ 10.1	+ 10.1
Middle Pacific.....	— 2.3	— 2.9	— 0.8	— 0.9	— 1.3	— 1.9	— 1.9	— 1.9	— 1.3	— 1.5	+ 1.2	— 1.2	— 1.2
South Pacific.....	+ 1.0	— 0.5	+ 4.3	+ 3.3	+ 3.1	+ 3.0	+ 3.0	+ 2.9	+ 2.8	+ 2.4	+ 1.7	+ 1.2	+ 1.2